

OCTOBER 1916 ~ No 130

Monthly

A Reference for Buyers

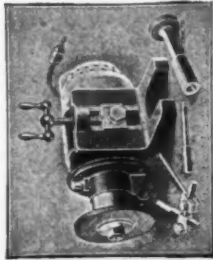
HITCHCOCK'S
**MACHINE
TOOL LIST**

Distributed Free to Machine Tool
Users Everywhere in the United States and to
Dealers in American Machinery Abroad

Published by
A. H. HITCHCOCK
1220-1235 Caxton Building
Chicago



Combination Internal and External Grinder
Two Sizes, $\frac{1}{4}$ and $\frac{1}{2}$ Horse Power



Angle Plate Grinder
Five Sizes $\frac{1}{4}$ to 3 Horse Power

HISEY

Electric Drills and Grinders

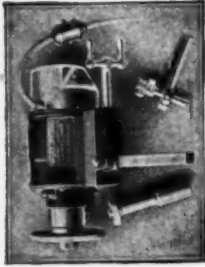
Most Complete Line of
Portable Electric Tools

Write for Catalogue H

The
Hisey-Wolf Machine Co.

Cincinnati, Ohio

New York Office, 50 Church St.



Tool Post Grinder
Ten Styles and Sizes



"Hisey" Hand Drill
Eight Styles and Speeds



Boosting the Profits with the NAMCO Bolt Threader

The NAMCO Semi-Automatic Bolt Threader means more in output and less in daily operating cost.

It is a simply constructed machine solid from the floor up and will give the utmost of service on your thread cutting work.

The two spindles enable operator to produce an almost constant stream of product, and the NAMCO Dies, which are regular equipment, insure clean cut, accurate threads continuously.

Cut Production Costs with a NAMCO Bolt Threader—it's a sure way of Boosting the Profits.

Ask for NAMCO Die Book "C" for detailed information.

Sent free upon request.

THE NATIONAL-ACME MFG. CO.

NEW ENGLAND PLANT
WINDSOR, VT.

Cleveland, Ohio

CANADIAN SCREW PLANT
MONTREAL, P. Q.

Branch Offices

NEW YORK BOSTON CHICAGO DETROIT ATLANTA SAN FRANCISCO

WAREHOUSES—NEW YORK CHICAGO FOREIGN REPRESENTATIVES

Makers of Gridley Single and Multiple Spindle Automatics at Windsor, Vt. Also Acme Automatics, Threading Dies and Screw Machine Products at Cleveland, Ohio.

Cochrane-Bly Company

Rochester, N. Y., U. S. A.

Manufacturers Of

Metal Sawing Machines

Made in five sizes, to cover every manufacturing requirement. Their thin milling saws combine high speed with the closest economy in high-priced steel.

Automatic Saw Sharpeners

Made in two sizes, for saws up to 15" and 24" in diameter. They grind and bevel at one operation the high and low tooth type milling saw.

Die Filing Machines

Made in two sizes, for the accurate filing of dies, punches, metal patterns, jigs and special gauges, and for filing duplicate parts requiring a close finish.

Universal Die Shaper

For die making and general tool room work. Operates both shaper ram and milling spindle at any angle.

**When considering this class of equipment,
would appreciate being consulted.**

Shell Steel Cutting Time

on the

**PEERLESS
High Speed
Heavy Duty
Metal Cut-
ting Saw.**



Owing to the toughness of this material it was selected for cutting time, and under extreme feed the actual time on cutting 5 in. round is $7\frac{1}{4}$ min. Regular stock blade was used, $12 \times \frac{3}{4}$, 18 guage, 10 pitch.

A machine that will stand up for such heavy duty work must be properly designed and rigidly constructed, and to stand the wear and tear the right grade of material and workmanship must be embodied, and that is just what you will find in the PEERLESS High Speed.

As a real time saver in operating and adjusting, it is in a class by itself. For an example, more than six cuts per minute can easily be made on $\frac{1}{2}$ in. round cold rolled steel bar. This means in ten seconds—opening the vise, moving the stock ahead, closing the vise, starting the machine, cutting off stock, and stopping machine. Can you beat it? If you doubt it we would be glad to prove it. The PEERLESS not only saves time but also increases production.

Again we say, the actual time saved in operating and adjusting the PEERLESS High Speed is a big item that is well worth investigating.

Again we suggest, before considering any other cutting-off equipment, write us for a complete description.

Peerless Machine Co.

1609 Racine St.,

Racine, Wisconsin

Cheap, Quick Cutting

Of high speed or other hardened steel, copper, aluminum and all other metals, or wood and metal combined, with the rapid

Peter Bros. Abrasive Metal Cutter

Cuts smoothly, saves waste of material and time, and is altogether the most satisfactory cutting method yet devised. Pays its own cost in a short time.

8" Size, \$17.50, with C. S.
Splendid for tool room. Cuts high-speed steel up to $\frac{1}{2}$ " square.

12" Size \$44, with C. S.
Cuts up to $2\frac{1}{2}$ " diameter, round or square, at any angle up to 45 degrees. Ball bearing.

15 Days' Free Trial

Write us or ask your dealer
PETER BROTHERS MFG. CO.
115 Railroad St., Algonquin, Ill.

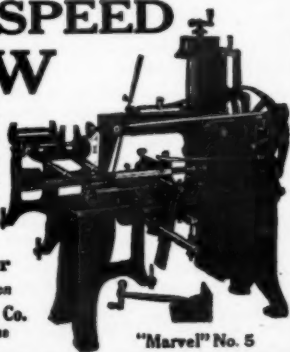


AUTOMATIC HIGH SPEED SAW

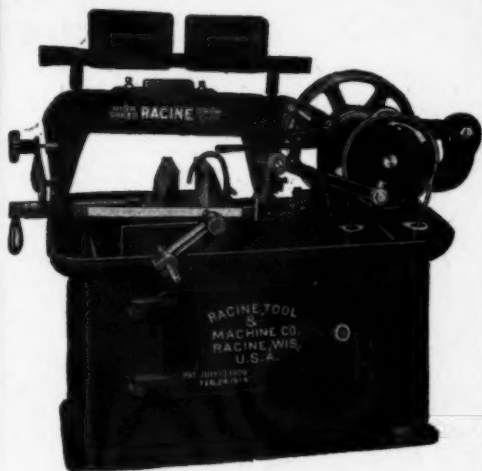
Attention is invited to the "Marvel" No. 5 Cuts duplicate pieces faster and at less cost than any other method. Entirely automatic.

Feeds the Bar

Write for full information
Armstrong-Blum Mfg. Co.
341 N. Francisco Avenue
Chicago, Ill.



"Marvel" No. 5



Why Is It

That so many large shops are now equipped and being equipped with

The Newly Improved Racine High Speed, Metal-Cutting Machine?

FOR MANY GOOD REASONS—among others—because for speed, accuracy, economy and ease of operation THE RACINE cannot be surpassed. You MAY NEED ONE NOW. We will send a RACINE on any trial basis that is fair. WRITE US or any good dealer.

Racine Tool & Machine Co.

1500 Junction Ave. S., Racine, Wis., U. S. A.

Economical Work on Small Lathes



**New Dalton 6-in.
Actual Swing 7 $\frac{1}{4}$ -in.**

Although these sturdy lathes are designed primarily for small, accurate work, they have the power and strength for work often done on lathes three to four times their size.

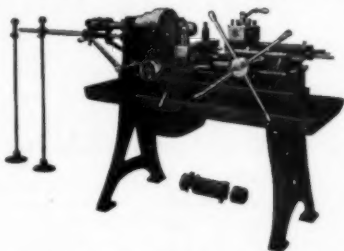
Why tie up a 14" to 20" lathe on jobs that can be done to better advantage on a Dalton 6"?

Screw cutting 3 to 144 per inch. Electric drive, power driven or foot power. Furnished also with standard high legs or in the bench type.

Write for Bulletin B-602

**DALTON MACHINE CO., Inc., 1910-15 Park Av.
NEW YORK**

Turret Lathes and Screw Machines

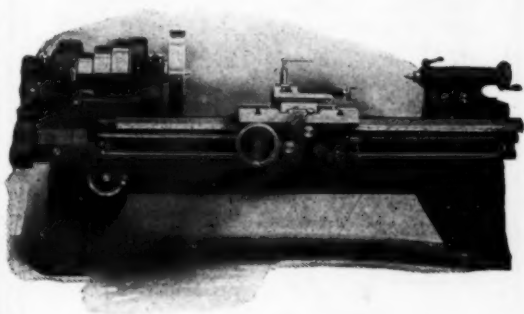


built and designed to give maximum permanent accuracy and efficiency. Reasonably priced.

Himoff Machine Co., Inc.
134 Mott Street, New York, U. S. A.

WALCOTT LATHES

Made in 14, 16, 18, 20, 26 and 28" sizes



For
Tool-Room and
Factory

Walcott Lathe Co.
Jackson, Michigan

You Are Wasting Time!

If you are paying a man to swing a sledge on your light tool dressing, miscellaneous forging and blacksmithing, cut out that expense now by installing a Barr pneumatic light forging hammer.

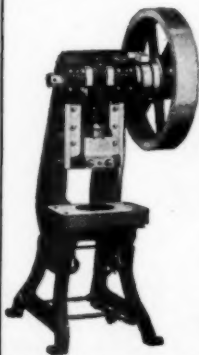
The cost is small! The results in time saved and production increased will please you.

Write for Circular 10 H

H. Edsil Barr, Mfr.
Erie, Penna.



Here Is A Press



With Plenty of Steam
Back of THE PUNCH

HIGH DUTY
ROCKFORD
PUNCH PRESSES

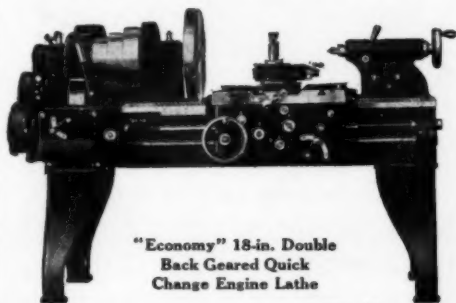
Made in straight side and inclinable types. Their great power backed by rigid design enable them to do the work you demand and stand up to it.

Write For Catalog

Rockford Iron Works
Rockford, Ill.

"Economy" High Duty Lathes

For the American Market



**"Economy" 18-in. Double
Back Geared Quick
Change Lathe**

Now is the time when manufacturers of mushroom tools must reap their profits wherever they can get them, for when the war is over they will go into the discard unmourned.

This is also the time when manufacturers of tools of special merit are placing their product where they must look for permanent business when the buyers will not have to accept what they can get but will be able to take their pick of the market.

That is why we have not accepted a foreign order for nearly two years—why we have quietly placed "Economy" Lathes in good shops throughout our own country, for we know that on their strict merit they will give us such a hold on a good share of the trade that no competition can shake it.

That is the kind of a lathe you need in your shop. And while we are unable to fill even the domestic demand for "Economies" just now, even with a greatly increased capacity, we would like to get in touch with a few more good concerns who are in position to anticipate their lathe needs.

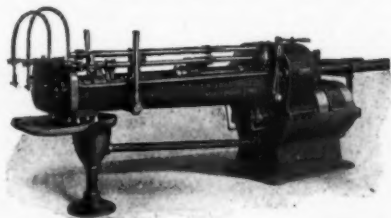
We shall give our very best attention to your inquiry

Rockford Lathe & Drill Co.

1827 Fourteenth Ave.,

Rockford, Ill.

Broaching Machines And Broaching Tools



Our Famous Double Machine

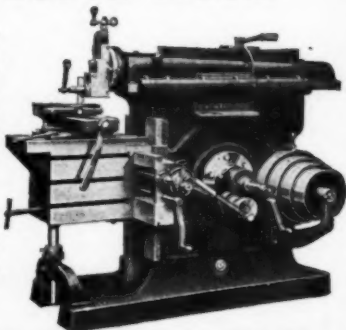
The Most Complete Line In The World. We make our machines in 5 sizes and 11 types. *Send for particulars.*

THE J. N. LAPOINTE CO., - - New London, Conn.

SHAPERS

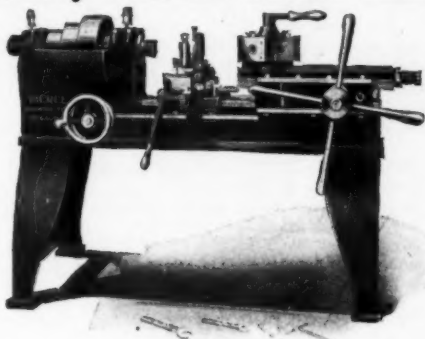
12", 14", 16"
Plain Crank,
16", 20", 25"
B. G. Crank,
either Cone
Driven or
through
Speed Box.

24", 28", 32"
Geared
Shapers of
the Belt Shift
type.



The Smith & Mills Co. Station B,
Cincinnati, O., U.S.A.

Pierce 14" Rapid Production
Heavy Pattern Turret Lathe



WE ARE CONFIDENT that after a close inspection you, too, would classify this Lathe as an advanced product—ahead-of-date in many respects.

It is designed and built for big production, and embodies the requisite accuracy, convenience and rigidity. Made by experienced workmen, of the highest quality of materials thruout. We now use the best grade of white metal obtainable for the bearings.

This Lathe is especially adapted for rapid production in manufacturing cast iron and brass goods requiring several operations to finish the part—such as automobile and gas engine parts, gear blanks, globe valves, etc. Every machine is backed by our guaranty.

*We invite careful comparison because we know our machine.
No trouble to answer your request for full information.*

Pierce Machine Tool Co.
617 W. Jackson Blvd., Chicago, Ill.

2200 Degrees or 1700 Degrees

Which Is Better for High Speed Steel?

Heat-treating high speed steel the old way, at a temperature of 2200 Fahr., necessarily results in many failures and much loss from pitting, breaking or distortion. If you are handling high speed steel in this way, these losses amount to a substantial sum. By using

HETZY
HEAT EASY

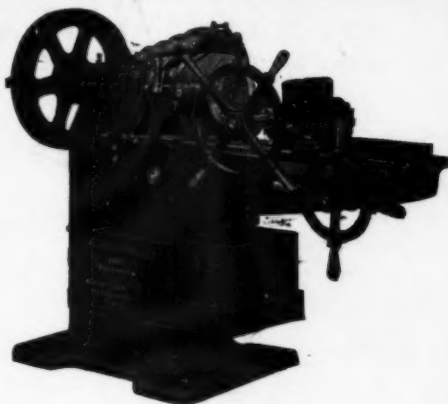
at a temperature of only 1700 degrees Fahr. you not only avoid any loss, either from distortion, breaking or pitting, but you can do all your tempering and hardening with ordinary, unskilled labor, saving the waste of material as well as the high price you pay for special skill.

We Stand Ready to Prove It

You can have 30 days to demonstrate the material and the process in your own plant, on your own work and with your own men. We are glad to assume all the apparent risk, because we know that actually there is none. If you use HETZY once, you won't heat-treat high speed steel without it.

*This Is Good Enough to Investigate
Write Now for More Facts*

Bennett Metal Treating Company
Elmwood, Conn.



Reliance Bolt Cutters

Built in sizes $\frac{3}{4}$ inch to 6 inches, Single, Double and Triple, of the most up-to-date design. There is, also, a good reason why the "Reliance" is such a satisfactory machine for accuracy of threads cut, large production and low cost of maintenance, even in the hands of inexperienced labor. A lot of this reason is in the Opening Die Head, and we would like to tell you all about it. Interesting information for the asking.

The Foote-Burt Co., Makers
Cleveland, Ohio

Pattern Shop Machinery

Special Prices if you refer to this ad.



Band Saws

Chicago No. 00 27 in. Wheels

" No. 0 32 " "

" No. 1 36 " "



Saw Tables

Chicago No. 5 Stationary Table

" No. 9 Tilting Table

" No. 10

Boring attachment if wanted.



Jointers

8 in., 5 and 6 ft. tables and guard.
12, 16, 20, 24 and 30 in., 7 ft. tables
and guard.

Trimmers, Lathes, Core Box Tools, etc.

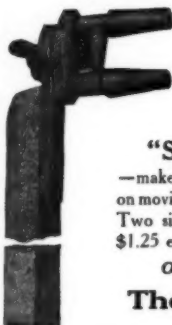
Ask for full descriptions

Chicago Machinery Exchange

1214-1228 Washington Boulevard, Chicago

Prevent Pulley Accidents

By Making Them Impossible



No matter how much or how little
your workmen may be hurt, and
no matter how much or how little
accidents cost, it is both better and
more comfortable not to have them
happen at all. The—

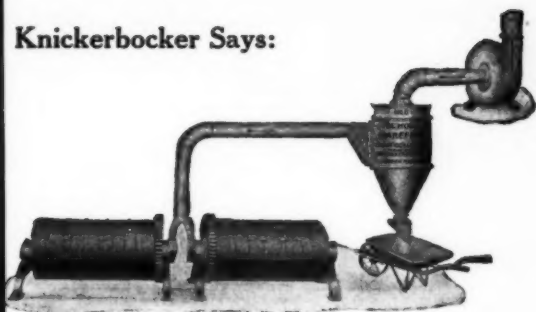
"Safety First" Belt Stick

—makes accidents impossible in putting belts
on moving pulleys. The hook can't get caught.
Two sizes, 1 to 4" and 4 to 6", at one price,
\$1.25 each or \$12 a dozen.

Order a few on approval—now

The Ready Tool Co.
Bridgeport, Conn.

Knickerbocker Says:



They Are Still Buying

Morse Dust Collectors

In the last few months we have received more than 70 repeat orders, nearly all from firms of national reputation. We give a list of a few of our customers:

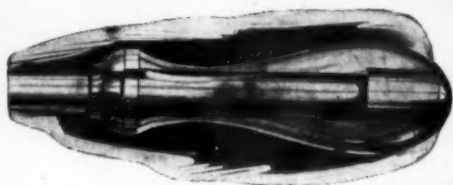
Weston-Mott Co., Flint, Mich.,.....	12
Westinghouse Elec. & Mfg. Co., Pittsburgh, Pa.....	10
Willis-Overland Co., Toledo, Ohio.....	10
Oliver Chilled Plow Works, South Bend, Ind.....	9
Pittsburgh Plate Glass Co., Pittsburgh, Pa.....	9
General Electric Co., Schenectady, N. Y.....	7
Fort Wayne Electric Works, Fort Wayne, Ind.,	5
Sutton, Steele & Steele, Denver, Colo.....	5
Buick Motor Co., Flint, Mich.,.....	4



They ordered the Morse "Rarefied," and are sending in their repeat orders, because of its exceptional merit. Let us tell you about its efficiency and remarkable economy.

It's worth many dollars to you.

The Knickerbocker Co.
Jackson, Mich.



Quick Action

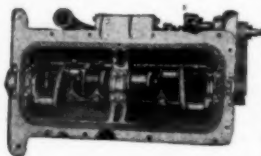
This is what we call this new Machine Handle. Attached to any power tool, especially the heavier types; adjustments are made with more speed and less effort.

All kinds of standard and special Handles from steel for power tools and similar purposes.

Send for Catalogue and prices.

The Cincinnati Ball Crank Co.

Oakley, Cincinnati, Ohio



VUL-COT Fibre is an exceptional gasket material for the gear boxes on lathes, millers and other machine tools which have change-speed devices.

VUL-COT Fibre does not stretch or shrink, won't tear, and is *almost* proof against cracking—so it can be used over and over again even if the case is dismantled frequently.

All information on this and many other uses of VUL-COT Fibre will be gladly supplied upon request.


AMERICAN VULCANIZED FIBRE CO.

560-570 Equitable Bldg.,

Wilmington, Delaware

Complete stock for immediate shipment at Chicago

Vul-Cot Fibre



If You Use BUSHINGS

In large or small quantities you'll be interested in our products and prices.

For the large user we offer unexcelled quality and quick delivery in finished bushings of all types and sizes.

For the small user such as automobile repairers who only need a few bushings occasionally there are our Velvet Cored Bronze Bars from which any standard bushing of the finest quality can be turned up at a few moments notice.

Write us today—tell us your needs. Address Dept. H.

JOHNSON BRONZE COMPANY

Formerly The American Car & Ship Hdw. Mfg. Co.

NEW CASTLE, PA.

Easy Work for a Canton Crane

Is Hard Work for 6 to 10 Men

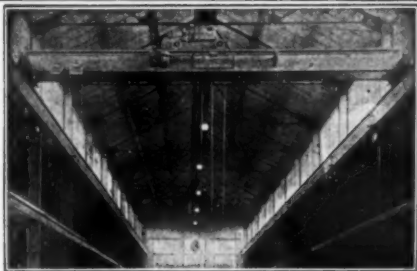


Why not use a Canton Crane for the lifting and lugging of your heavy machinery and castings? It does the work quickly and safely, saving money, time, muscle and temper.

"The Handiest Tool in the Shop" is made in several sizes, and double gears are furnished at small extra cost.

A 30 day trial for the asking

CANTON FOUNDRY & MCHE. CO., Canton, O.



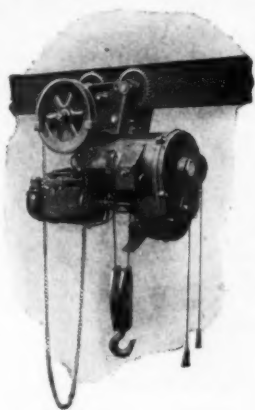
Floor Operated

Electric Traveling Cranes

do not require an operator in constant attendance and are frequently as well or better adapted for handling material than the more expensive cab operated.

We make all types of overhead cranes and hoists.

The Euclid Crane & Hoist Company
Euclid, Ohio



A type "U" Hoist in your plant will replace from 10 to 15 laborers—and it will pay for itself in less than 90 days.

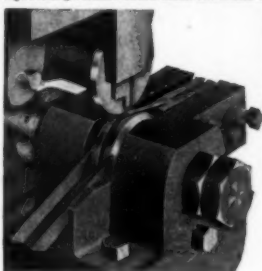
Built in sizes from $\frac{1}{2}$ Ton to 6 Ton capacity.

We'll be glad to mail you Bulletin 301-BH and prices.

PAWLING & HARNISCHFEGER CO.
MILWAUKEE WISCONSIN

The New Gray Sheet Metal Cutter That Is Not a Rotary Shear

It will cut sheet metal or steel plates to 3-16" in any shape without springing or buckling the sheet, as a shear does, and leaving both sides of the cut in perfect form and with smooth edges. Cuts inside angles, corners and curves at one operation, following easily and rapidly an exact line. A reciprocating vertical cutter takes out a thin kerf, working in metal much as a



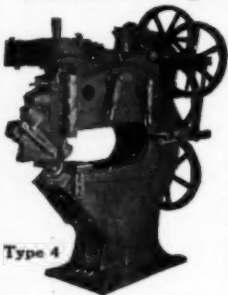
jig saw works in wood—a highly interesting process. The saving which the Gray cutter effects in time, trouble and in stock puts it in the class of machines that quickly earn their cost. It is not an investment long, because its earnings soon pay for it, but it is an asset, and one of large earning capacity.

How shall we address an interesting circular we want to send you?

Please advise promptly

W. J. Savage Co., Inc.
Knoxville, Tenn.

Cuts Irregular Curves, Discs or Circles Without Cutting in from Side of Sheet



Type 4

Type 4 "Quickwork" Rotary Shear cuts $\frac{3}{4}$ -in. thick steel and lighter to $\frac{1}{4}$ -in. radius in reverse curves, or 9-in. diameter hole. Follows any serpentine or sudden changing lines on one passage. Leaves metal true and flat. This

"Quickwork" Rotary Shear

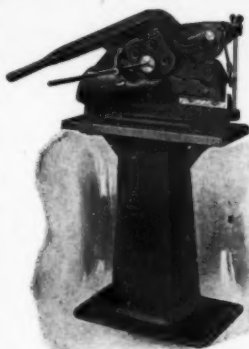
has three changes of speed, instantly controlled by lever. Upper cutter raised and lowered by power. Depth of throat 30-in.—weight 4000 pounds. Saves 5 to 40% stock. Saves 90% labor.

"Quickwork" Rotary Shears are made to cut 16 gauge to $\frac{1}{2}$ -in. steel. Sold on trial—fully guaranteed.

*Write today for sample cuttings,
complete descriptions and prices.*

H. Collier Smith 815 Scotten Ave.,
Detroit, Mich.

Makers of the "Quickwork" Line of Metal-Working Machinery



Nos. 1, 2 and 5 Shears and Rod Cutter



Nos. 3 and 4 Shears

Hercules Shears and Rod Cutters

No. 0—Shear (Tool Makers Bench Machine)	Cuts	$\frac{1}{4}$ "	Iron Rod,	$\frac{1}{16}$ "	Flat Iron.
No. 1—Shear,	Cuts	$\frac{1}{2}$ "	Iron Rod and under,	$\frac{3}{16}$ "	Flat Iron and under.
No. 2—	"	$\frac{5}{8}$ "	"	"	"
No. 5—	"	$\frac{3}{4}$ "	"	"	"
No. 3—	"	$\frac{1}{4}$ "	Flat Iron and under only.	$\frac{5}{16}$ "	"
No. 4—	"	"	"	"	"

Shear blades have a draw-in cut with no tendency to crowd work out of shear. Pressure is directly over the cut by a rolling contact. Arm of movable blade is operated with a steel band. No springs on the machine.

Send for Shear Catalog

Manufactured and For Sale By

W. C. & F. C. TUCKER, Hartford, Conn., U.S.A.

The Improved Rhodes Combined Shaper and Slotter

A 2-in-1 Tool
At a Low Price
For Small Work

With Vertical Attachment, as shown, it is a real vertical and horizontal machine.

Built like a big machine tool.

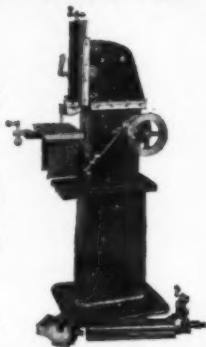
But it costs less.

Wonderfully efficient and economical in shaping and slotting light work—in making tools, dies, models, etc., etc.

An economy tool in price and in operation.

Write for full description

Rhodes Mfg. Co.
Hartford, Conn.



A Wonderful Combination In Riveting



- Speed:** one rivet per second.
- Uniformity:** each rivet headed with same degree of tightness or looseness as desired.
- Finish:** perfectly formed rivet heads, highly polished surface, no hammer or tool marks shown.

Grant Noiseless Rivet Spinning Machines, are the only machines built that will accomplish the above.

Catalog ?

The Grant Mfg. & Machine Co.
C. E. Station, Bridgeport, Conn.



For your machine tools you need an easy way of changing cutting speeds to suit all sizes and kinds of material. The simplest and surest way of getting just the speeds you want is by applying

Reliance *Adjustable Speed* **Motors**

These motors run at any speed with a constant horse power output over any range up to 1 to 10. To change the speed just turn the hand wheel—no electric controller is needed.

Get the details in Folder 10 L
(We build constant speed motors.)

Reliance Electric & Engineering Co.
1050 Ivanhoe Road, Cleveland, O.

Combination Disc Grinder & Roll Sander

"Best machine ever built for pattern shop use"

Patented



The No. 20 Gardner combines both the disc wheel and the sanding roll into a compact, sturdy and accurate machine. The disc wheel is used for producing flat surfaces and external curves; the sanding roll perfects internal curves which have been roughed out on a band saw.

Both this disc wheel and the roll remove stock with extreme rapidity and accuracy. With this machine at hand your apprentice boy can do, with greater speed and quality, much of the work formerly done by your best man. A Gardner No. 20 soon pays for itself in any modern pattern shop working four or more men.

Get the details today

Gardner Machine Co.

The Disc Grinding Authorities

Beloit, Wisconsin

Largest Disc Grinder Builders in the World



The *Greenfield*

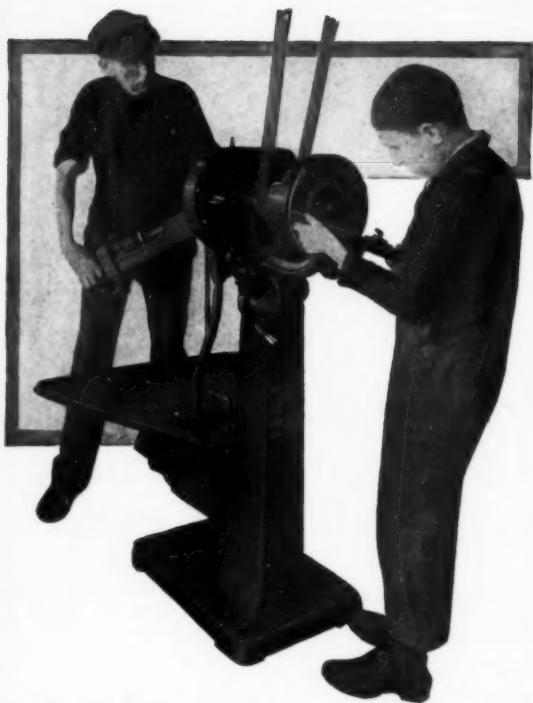
For Special Work, Tools, Jigs, etc.

This Universal Grinder is just the machine needed in many of the shops engaged in equipping for the manufacture of special lines. It is an all-around grinder and will handle about any kind of a job that comes within its range.

It will turn out accurate, dependable work. Also, we believe we are perfectly correct in stating that we furnish this machine with a larger and more complete set of attachments than can be had for any grinder selling at anything like the same price.

We also build Plain Grinding Machines for production work

Greenfield Machine Company
Greenfield, Mass., U. S. A.



Style WPL New Yankee Drill Grinder

(Capacity, No. 60 to 2¼")

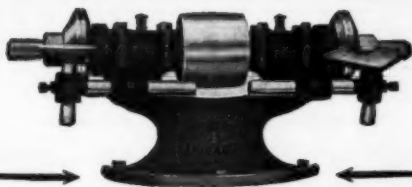
Any BOY in your shop can grind a drill better and quicker on a new Yankee than your most skilled mechanic can do it by hand.

Catalog on Request

Wilmarth & Morman Co.

2185 Monroe Ave., N. W.

Grand Rapids, Mich., U. S. A.



Grinders and Equipment

For Greater Efficiency In Your Shop

Have You Ever Considered how one of these inexpensive machines, conveniently placed in your factory, would soon pay for itself in the time and steps it would save your workmen?

I Make a Complete Line of efficient and durable bench and floor emery grinders to carry 3-inch to 20-inch grinding wheels. Also polishing machines, and combination grinding and polishing machines. Some with plain bearings, others with wick oiling bearings, and the best have ring oiling bearings.

Send a Trial Order and examine the machines at your leisure. If not thoroly satisfied with them in every respect, you can return them at my expense.

See your dealer, or write direct to me about

Emery Grinders
Polishing Lathes
Saw Mandrels
Bench Tapping Machines
Lathe Arbors

Lathe or Hollow Mills
Countershafts
Wood Turning Lathes
Foot Punch Presses
Chuck Arbors

E. O. PARTRIDGE

2041-49 W. Lake St.,

CHICAGO

Allen Safety Set Screws

Any Length Point or Thread.

We make a specialty of short lengths.



Allen Socket Cap Screws

Are neat in appearance
and exceedingly strong.
A big improvement over
the slotted head type.



Send for circular No. 13 and sample screws

ALLEN MFG. CO., - Hartford, Conn.

Peoples Life Insurance Bldg., Chicago, Ill.

173 Princess St., Manchester, England

High Grade Steel Bearing Balls

Accurate to 2-10,000th—Highly Finished



In Sizes $\frac{1}{8}$ to $\frac{1}{2}$ -Inch

Produced on our own perfected special machinery for the finest bearings, or in any grade desired, at moderate prices. Glad to quote you now on any quantity, and in any size.

The Abbott Ball Company

Elmwood District, Hartford, Conn.



RADBORE HEAD

**Maximum
Accuracy**

**Minimum
Cost**



Why try so hard to avoid square and rectangular holes in your work, when this tool will drill them quickly, accurately, and cheaply.

We find that very often a designer will substitute a round hole with a keyway when a square hole would give decidedly better results, simply because he fears the complications formerly involved in square hole work.

Our attachments are made to avoid these complications by drilling a perfect square or rectangular hole, either entirely through, or leaving a perfectly smooth flat bottom in the material.

The use of the Radbore Head obviates all strain or injury. It simply drills the hole desired in the same manner as an ordinary twist drill.

If you are contemplating work of this sort, consult our engineers whose services are at your disposal without charge.

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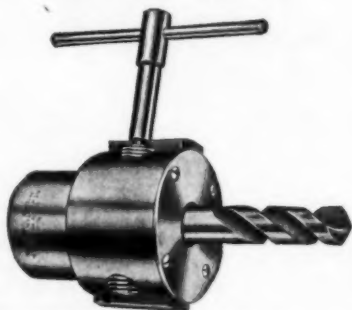
Lawson & Company, Inc.

90 West Street, New York City

The **Union Drill Chuck**

Has Many Good Points to Recommend It.

**It is an Accurate Chuck and All Parts
Are Strong and Durable**



The jaws and operating screw are made of a high grade of tool steel, specially selected for its wearing qualities. In addition the Chuck is provided with a positive drive feature, which if properly used will prevent the drill from slipping and add to the life of the Chuck.

Union Manufacturing Co.

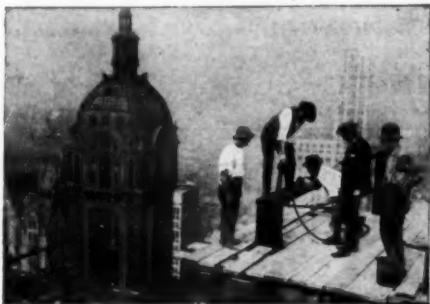
**New York Office,
26 Cortlandt St.**

New Britain, Conn.

Makers of a Complete Line of Chucks

Thor

Long Stroke Riveting Hammer



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Driving the last rivet on the Equitable Building in New York City. This completed one of the most difficult riveting jobs ever attempted, and is one more example of the great power, speed and durability of the Thor Hammer.

Thor Tools Ready for Immediate Delivery

**Independent Pneumatic
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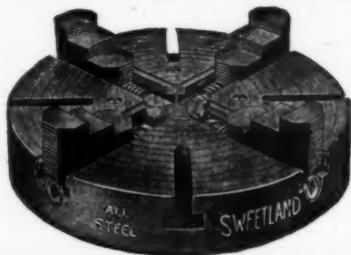


We manufacture a great variety of
Lathe Chucks, Drill Chucks, Centering Chucks
Also
Portable Jaws for Lathe face plates and Machine tables.

Let us send you our Catalog

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Established 1862 **Hartford, Conn.**

**Why are you invited to inquire into
 Sweetland Chuck Service?**



Because it offers you something worth while.
HOGGSON & PETTIS MFG. CO., New Haven, Conn.

SKINNER

Independent Lathe Chucks

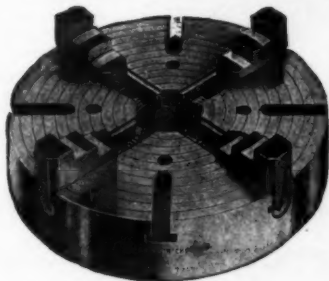
Iron and Steel

Fig. 900

Fig. 1900

Bodies

**With Solid Reversible Jaws
Hardened Steel Bearings**



For High Speed Work

The last word in chuck construction.

Wide jaws; hardened steel thrust bearings; adjusting screws of large diameter, threaded full length; jaws ground after hardening, etc.

Descriptive matter and new prices on request—

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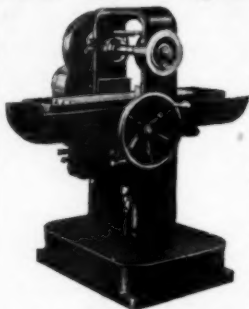
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A Radical Departure In Millers



Briggs High Duty for Form and Gang Milling

on steel parts for automobiles, guns, etc. A milling machine that will best do that kind of work is also mighty handy to have around any first-class machine shop.

It takes wide cuts in hard steel to the full power of a 3½-in. double belt, without tendency to chatter. It excels in rigidity, power and convenience.

It is unique as a cost reducer. Write for details.

GOOLEY & EDLUND, Inc., Cortland, N. Y.

The Jacobs Improved Drill Chuck



Patented Sept. 16, 1902

Manufactured by

The Jacobs Manufacturing Co.
Hartford, Conn., U. S. A.

A LINE:

Of

Millers

80 lbs. to 1200 lbs.

Tappers

0" to $\frac{5}{8}$ "

Drills

0" to $\frac{3}{8}$ "

"Burke"

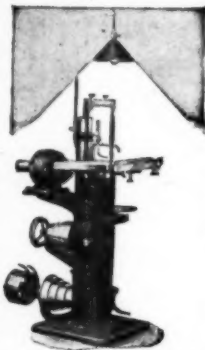
Superior
Machine Tools
are accurate,
seasoned and
durable.

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Rearwin Die Filing Machines



***Increases the Output
Decreases the Cost***

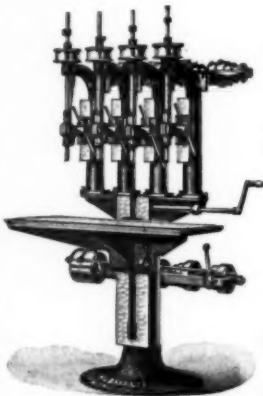
Does both large and small work. Any standard file 4" to 12" in length can be used. Stroke adjusted from 1" to 7". File releases on up-stroke. Shaft or motor drive gives rapid production and a uniform degree of clearance in your dies or other work where straight filing is required. Hack saws can be used for making templates.

Adjustable Speed Stroke & Table

*Descriptive circulars and
prices sent on request.*

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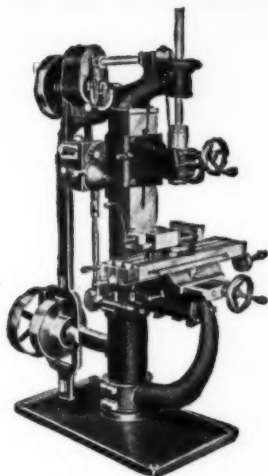
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H. G. Barr Line
of
Sensitive Drills**

**with one to six
spindles.**

***Send for catalog
if interested***

Francis Reed Co.

43 Hammond St.
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Mill, Bore and Drill at Any Angle With Only One Setting of the Work

Knight Milling and Drilling Machines save from 20 to 50% of time on hard machining of all kinds in the tool room, experimental department and shop. In convenience they are equal to two or three ordinary machines.

Our Light Duplex Miller

is especially adapted to the accurate and economical milling of such work as frames of typewriters, adding machines, cash registers, etc., where lugs occur in pairs and are to be finished on opposite sides of the casting. Also good for many other light manufacturing jobs that can be milled on two sides at a time.

Let us send you details of these great cost reducers

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Expanding Mandrel

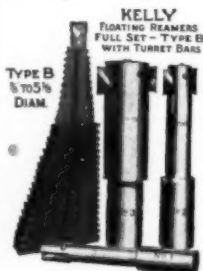
Making *every* minute count for as much as it *can* count is the key to present-day high-output manufacturing.

These NICHOLSON EXPANDING MANDRELS because they are instantly available for *any* sized square or round hole between $\frac{1}{2}$ " and 7", are enormous time savers in set-ups for lathe, miller and grinder work.

By writing you can obtain, free of obligation, an interesting booklet showing the practical application of these time-saving mandrels.

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Kelly PRODUCTION Tools



The outfit shown in cut, with three turret bars and 36 type B reamers, gives any diameter in ten thousandths from 15-16ths to 5 1/2 inches. Each reamer has an adjustment of 1/4-inch.

Kelly Boring and Reaming Tools are made for any diameter from 9-16ths to 12 inches and larger.

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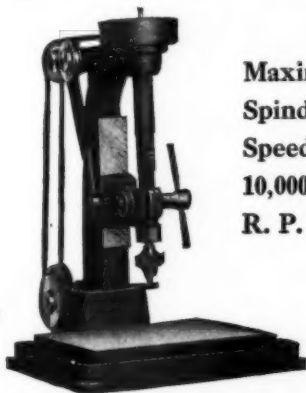
THE KELLY REAMER CO.

CLEVELAND, OHIO, U. S. A.

C. W. Burton, Griffiths & Co., London, English Agents.
Burton Fils, Paris, French Agents. 40 Domestic Agencies.

Save Money

with this
High Speed Drill



Patents
Pending

Maximum
Spindle
Speed
10,000
R. P. M.

**Double Your Production on Holes
up to $\frac{3}{8}$ " in diameter**

This machine is carefully and accurately built to give the greatest service. Equipped with Hess Bright Ball Bearings throughout.

Ask for Bulletin No. 502

Leland-Gifford Co.
Worcester, Mass., U. S. A.



If You Had Only Owned A Walton Tap Extractor

the last time you had a broken tap, what a satisfaction it would have been. You wouldn't have thrown it away for twice its cost.



But there will be a next time, and probably several! next times, when a tap will break at or below the surface of the work. If you believe in preparedness you will order your Walton Tap Extractor now.

Write for 60-day free trial, or folder, or both

THE WALTON CO., Hartford, Conn.

Look What This Tool Will Do

It Will

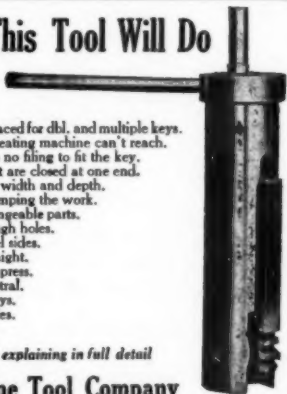
- Mill key seats uniformly spaced for dbl. and multiple keys.
- Mill key seats where key seating machine can't reach.
- Mill key seats that require no filing to fit the key.
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- Mill key seats that are straight.
- Mill key seats on the drill press.
- Mill key seats that are central.
- Mill key seats for taper keys.
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- Mill key seats in one cut.

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National Machine Tool Company

2268 Spring Grove Ave.,

Cincinnati, Ohio



Representative manufacturers throughout the world are installing

Sipp Quick Change Speed Sensitive Drill Presses

and concede that they are in every sense the last word in drill presses, high grade, high speed, all ball bearing. Made in various combinations, one to eight spindles. Get in line if you are not already a user and save 95% of all the time lost on machines of inferior design. Order one now and get acquainted. Belt, horizontal and vertical motor driven. Net weight single spindle machine 925 pounds. A trial run of 30 days will convince you, or shall we tell you more about them? A GOOD TOOL IS THE TIE THAT BINDS INTELLIGENT EFFORT TO GOOD PRODUCTION,

Bulletins on request



THE SIPP MACHINE CO., PATERSON, N. J.

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Increasing Production

With T. & F. "Sensitive Radials"

THAT'S WHAT many manufacturers are doing today—those who have drilling to do up to $\frac{3}{4}$ in.—in big, hard-to-handle pieces. Some of our customers have increased production two and three-fold without adding to the labor cost. While thoroly rigid in construction, it is the lightest machine of its kind—easiest to handle, quickest to adjust.

It has all the desirable features of our standard line, and by using drilling heads of different types it can be made to cover practically all drilling requirements within its range.

Drilling and cost records are yours for the writing

The Taylor & Fenn Company
Hartford, Conn.



**With
One
to
Eight
Spindles**

**For
 $\frac{3}{4}$ -in.
Drills
and
Smaller**

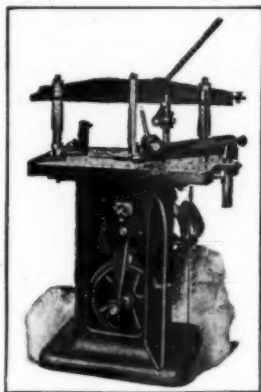
Henry & Wright Drilling Machines

When you buy drilling machines, buy output. Results count. The Henry & Wrights, with their gearless power transmission, frictionless bearings and other improvements, give that increased daily output per spindle which means a reduction in shop costs during its life of more than its original price. Practical tests have satisfied many of the largest users, one plant alone having over 2300 Henry & Wright drilling spindles in operation. Among the 252 varieties you will find one or more precisely adapted to your work.

Full details and our Speed and Feed Chart free

The Henry & Wright Mfg. Co.
760 Windsor St., Hartford, Conn.

DAVIS KEYSEATERS



No. 1 Keyseater

No. 1 Keyseater will cut
 keyways from $\frac{1}{8}$
 to 1 inch—

No. 2 Cuts $\frac{1}{8}$ to $\frac{1}{2}$ inch—

Their work is
Rapid, Accurate
and Economical.

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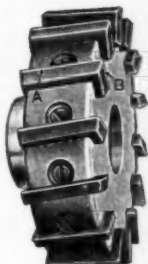
DAVIS MACHINE TOOL CO., Inc.
ROCHESTER, N. Y., U. S. A.

On Jobs Like This Brown & Sharpe Milling Cutters Make Production Records Climb

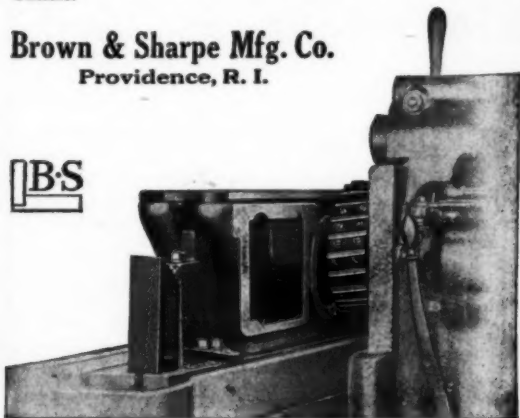
A somewhat unusual method of roughing out such castings, but a profitable one for quantity production. Put a B. & S. Inserted Tooth Milling Cutter on the machine and there will be no need to worry over cutter problems.

Individual blades can be quickly removed from the steel body or adjusted. In addition the B. & S. style of Inserted Tooth Face Milling Cutters are so held as to quickly release from the spindle; you do not have to *drive* them off.

Our General Catalog illustrates these, also about 45 other styles of high grade Cutters.



Brown & Sharpe Mfg. Co.
Providence, R. I.





This is our **No. 1 Bench Miller**

Our complete line of Millers range from the smallest machine built to our No. 5 (a floor type) weighing 1200 lbs.

We solve Miller problems

**Your Troubles
Our Pleasure**

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The Burke Machine Tool Company
Conneaut, Ohio

In A Class By Itself



Is our New Model Bench Miller; because, we furnish with the machine our Quick operating Lever Vise, also Index Centers and two speed friction countershaft.

Send for circular

The Carter & Hakes Co.
West Winsted, Conn., U. S. A.

AGENTS—for New England and New York, Hill, Clarke & Co.
WESTERN AGENTS—Marshall & Huschart Machinery Co.,
Chicago, St. Louis, Indianapolis.



The "Whitney" Hand Miller

is an all around machine. It will handle thousands of milling jobs that are now being done on larger twice-the-price machines.

The Jones & Lamson Machine Co., of Springfield, Vt., say:

"Your Milling Machine is one of the most indispensable tools in our milling department on account of its adaptability to many special uses."

You, too, will find this machine a profitable investment.

Simply send a postal for Catalog No. 8.

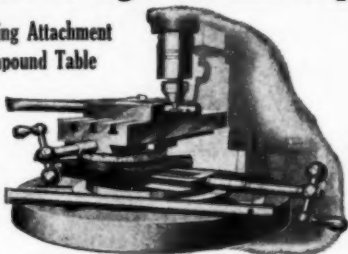
The Whitney Mfg. Co., - Hartford, Conn.

Chains—Keys—Hand Milling Machines

Valuable in Big or Small Shop

Davis Milling Attachment and Compound Table

Converts
any Drill
Press from
14 to 42-in.
Swing in
2 Minutes

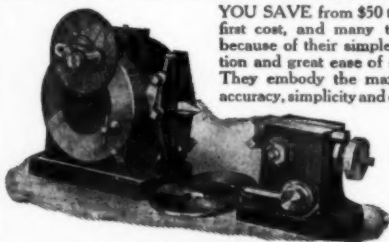


When your large millers are tied up with work, a Davis comes in handy spotting castings, milling ends of bosses, and many other odd jobs. Does 90% of the lighter jobs as well as a \$1,000 machine. The attractive prices on our air compressor, and our cylinder reamers for re boring the Ford car, will also surprise you. Circulars and prices?

Hinckley Machine Works, HINCKLEY, ILL.

Quality Is Highest—Not The Price

Dickow's Guaranteed 10-In. Universal Index Centers

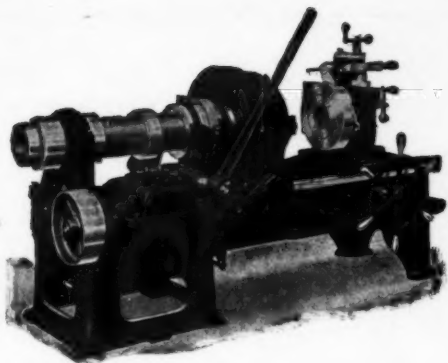


YOU SAVE from \$50 to \$125 on first cost, and many times that because of their simple construction and great ease of operation. They embody the maximum of accuracy, simplicity and durability.

Get the Original—Beware of Imitators

Sold by all dealers. Write today for particulars.

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Bignall & Keeler Pipe Threading Machines have been in use for nearly a third of a century. They are used today on all kinds of pipe, in all kinds of shops, giving the kind of service that brings us repeat orders.

We make them now in 17 styles and sizes, to thread and cut pipe from $\frac{1}{4}$ to 18-in. Some are designed for handling many sizes with provision for quick adjustment, and others for especially rapid work on one size of pipe for manufacturing in quantities. No matter what your needs may be, we can furnish you with an improved machine that will do your work most economically.

Our experience is at your service. Write us.

Bignall & Keeler Machine Works
Edwardsville, Ill.



Inaccuracies of less than a thousandth of an inch in tapers detected instantly

For measuring the various tapers on end mills, profile cutters, twist drills, reamers, milling machine arbors, lathe centers, etc., etc., the—

Hartford Taper Gage

—is invaluable. It saves time and insures accuracy to such an extent, and is so inexpensive, that one manufacturer alone now has 32 in use throughout his plant.

The testing is done before a window. The gages are easily adjusted to a man's height, or may be taken off and used on a bench. The plates are adjustable to No. 14 B. & S. taper.

Full details will interest you. Write to—

Hartford Special Machinery Co.

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YOU Want Tool Holders that have MADE GOOD

Armstrong Tool Holders

Were Awarded The

Grand Prize

The Highest Possible Award at the Panama-Pacific International Exposition—1915



They Always Make Good

They Are Used in Most of the Big Machine Shops of the World

Send for Catalog

Armstrong Bros. Tool Co.

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.





Continental Motor Mfg. Co.—Portion of Stockroom

Modern Show Places

VERY LIKELY you have been thru some of them—and it's 10 to 1 that you found them equipped with Steel Bins, Shelving and Lockers. There are good reasons for the supremely efficient and successful plant to be so equipped. For instance:—

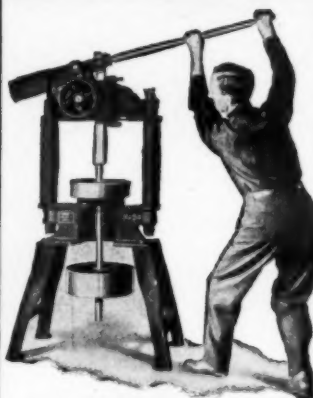
- ☐ Steel outwears wood.
- ☐ Steel is fire-resistant.
- ☐ Steel economizes space.
- ☐ Steel reduces your fire insurance.
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While the first cost of wood may be somewhat lower, the many permanent advantages of steel makes the latter by far the most economical material to use.

Send for Information on Steel Equipment so you can begin to put your plant on a more economical and efficient basis.

Terrell's Equipment Company

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No. 24 Press

Efficient Equipment Atlas Presses

for building and repairing automobiles and general machine shop operations requiring pressure up to 25 tons and centering capacity up to 38 inches.

For driving mandrels; bending and straightening, broaching, embossing with dies, setting bushings and many other every day manufacturing jobs, there is an Atlas Press. All sizes for all purposes. *It will pay you to investigate.*

Atlas Press Co.

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Hydraulic Machinery

**Heavy and Medium
Pressures**

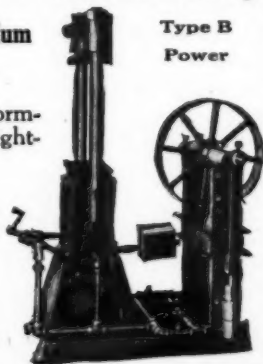
For Broaching, Forming, Bending, Straightening, etc.

**Presses for All
Purposes**

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Springfield, Ill.



**Type B
Power**

WEAVER

Forcing Press

Capacity 20 Tons

Strong—Roomy—Light



THE BALL BEARING HAND WHEEL enables the screw to be run its entire range of 12 inches in less than 10 seconds.

5-inch, 9-pound channel steel frame; 15-in. hand wheel, carried upon ball bearings. Bronze Thrust Bearings. Screw 2 in. in diameter with 3-pitch Acme thread. Range of movement, 12 in. The screw does not revolve.

Net Price (^{32-in.}_{Width}) \$56.00

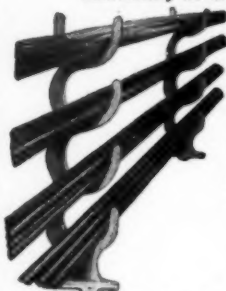
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Get Ready to Clean House Right



Pipe, Shafting and Bars

are about the easiest things to get mixed up or scattered around, often in the way, and you simply can't clean house right unless you have the—

"Handiest Racks"

They store your bar stock in a fourth the space, where you can see what you have, where you can keep them assorted, where you can get at them easily and quickly.

Better get in touch with us NOW, and be prepared in ample time to change that mess into tidy stock at house-cleaning time.

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The Wickes

Continuous Electric.
Sells at **half** the
price. Uses **half**
the current
of others.
Perfect prints
up to 48" in
width and of
unlimited
length.



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This department is exclusively for those desiring machine, press or die work on contract. Advertisements must be set in uniform style, as shown, and without other display, or any variation in arrangement or in kind or size of type. The heading must express, as nearly as possible, the particular sort of work wanted, in order that any facilities offered may be easily found. Rates: one-eighth page, three months, \$12; one year, \$40.

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We have complete facilities for stamping, drawing and forming of sheet metal. Our presses are best suited for medium and large size stampings. We are equipped for baked enameling, spot and acetylene welding. Send us sample, sketch or blue-print for estimate. **The New Britain Machine Co., New Britain, Conn.**

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General Engraving, Die and Tool Work

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We have a very complete outfit of modern machinery and a force of highly skilled workmen which we could make available part of the time for outside work. We would like to get in touch with reliable concerns desiring to contract for accurate machine tool work. **Campbell Electric Company, Lynn, Mass.**

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Every kind, for which we have the machinery and skilled labor to produce results. We are equipped also for special machine work. Our particular specialty is high grade service. Can you use that kind? **Manhattan Brass Works, Grand Rapids, Mich.**

Want Orders for Die Casting?

This is the place where you can offer your facilities to users of metal products everywhere in the United States. Many readers of the Tool List are in the market for die castings, and they would welcome information as to what you can do for them.

We'll Make It—Your Metal or Wood Specialty

We have unusual facilities for producing specialties in both metal and wood. Experimental and model work, pattern making. Jigs, dies, sheet metal work. Write for details. **Gas Engine & Power Co. and Charles L. Seabury & Co., Consolidated, Morris Heights, New York City.**

Sheet Metal Stamping and Manufacturing

We solicit your inquiries for light sheet metal stamping and manufacturing of specialties. **O. D. Johnson Stamping Works, Batavia, N. Y.**

Die Work

Exceptional facilities for making dies and tools and building machinery. **Titchener Iron Works, Binghamton, N. Y.**

Tools—Dies—Jigs—General Machine Work

Screw machine products. Efficient service and prompt deliveries. Send us your blueprints for quotations. **Commercial Motor Car Co., Inc., Owego, Tioga County, N. Y.**

General Machine Shop and Foundry Work

We are prepared to handle large and small work in our foundry and shops. Cheap freight rate via Clyde Line to New York. Prompt deliveries. Send us your drawings and inquiries and we shall give you our best prices. **Cape Fear Machine Works, Wilmington, N. C.**

CONTRACT WORK WANTED

General Machine Work—Dies, Tools—Special Machinery

We are equipped to build machines of every description—sheet metal punches and dies—tools, models and jigs—long brake dies. Our object is high grade service. Send b. p. for estimate. **Canton Machine Shop, 320 Rex Ave., Canton, Ohio.**

Simplified Design

If your product is too complicated, you are paying a tax you can avoid. The very beginning of increased production is simple design. Let me comb over your designs. I can show results. **W. L. Schellenbach, Engineer, First National Bank Building, Cincinnati, Ohio.**

Work for Your Idle Equipment

You can get it, if you will let manufacturers know just what you can do. Tell them through this department. The cost is small; the distribution covers the metal manufacturing people everywhere in the United States.

General Machine Shop and Foundry Work

Fifty years' successful operation our record. We have a large and well equipped machine shop, also foundry. Plenty skilled labor. Can handle large and small work. Would like contract for a number of large machines, also for automobile parts and other machinery. **Southern Engine & Boiler Works, Jackson, Tenn.**

Lathe Work, Pipe Threading, Forge Work, Etc.

Machine work for lathes; cutting and threading pipe up to 18"; sheet iron and heavy plate work up to 1"; boilers, tanks, smoke stacks, etc.; also oxygen welding and cutting, and work for electric drill and hammer. Good facilities, low labor cost, prompt service. **F. O. Ambrose, 111-113 N. Main St., Janesville, Wis.**

Pressed and Stamped Steel Parts

It will pay you to let us figure on such pressed, stamped or drawn metal articles or parts as you may require, be they made of steel, aluminum, brass or copper. Our 15-acre plant at your disposal. Get the benefit of our "Knowing how since '81". Send samples or blue prints for estimate. **Geuder, Paeschke & Frey Co., Milwaukee, Wis., 1325-1700 St. Paul Av.**

Do You Want Contract Work?

If so, state in one of these spaces what you are prepared to do, and it will go into more manufacturing plants than if published in every mechanical journal in this country. The cost is low for a service covering metal-working plants of all kinds everywhere in the United States. **A. H. Hitchcock, Publisher, 1220-1235 Caxton Building, Chicago.**

Want More Orders?

They are to be had for special contract work in machining, stamping, forging, casting, welding or any department of machine manufacturing. The problem is merely to bring the capacity and the demand for it together. If you have the idle capacity, and want work for it, the "Contract Work Wanted" department of the Tool List will help you to get in touch with machine-making plants everywhere in the United States. Its circulation among American metal working plants is country-wide. There is no other available means by which you can reach so many.

Don't let your equipment stand idle. That costs money—a lot more than it will cost you to find work for it. Write me for further information, and for a copy suggestion, which I shall be glad to make without cost or obligation.

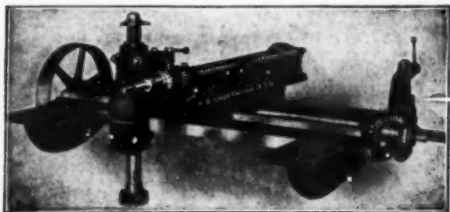
A. H. Hitchcock, Publisher

Hitchcock's Machine Tool List

1220-1235 Caxton Building, Chicago, Ill.

Usable in Any Position

Underwood's Portable Milling Machine



THIS EXCEPTIONALLY HANDY and Efficient Tool is cutting time in two in railway and general repair shops. It has power feed in both directions, and is usable in any position—horizontal, vertical or inclined—making it easy to do a wide range of repairing *in place*.

It faces a valve seat 22 x 40 x 7 in., or does other milling of similar dimensions. Gives universal satisfaction because of its rapid and accurate work. We can build to suit special requirements. Operated by hand, small steam engine, air or electric motor.

We have been building Portable Tools and labor saving devices for over 45 years. Our line now includes:

Millers; circular planer tools; radius planers; rotary planers; machines for truing eccentrics, facing domes, arms for facing cylinder flanges; rotary flue cleaners; armature and axle bearing borers; pipe benders; locomotive cylinder borers; boring bar for lathe work; crank pin turners; reflex water glass grinders; rail saws; motors, etc.

Since you want shop economy, send for our Catalog.

H. B. Underwood & Company

1016-22 Buttonwood St., Philadelphia, Pa.

Second-Hand Machinery.

Lists of Second-Hand Machinery, either for sale or wanted, set in uniform style, will be published under this heading at the rate of **40 cents a line**, across the page, each issue. Minimum charge, **\$4.00**. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. No display in this department.

Write directly to the parties offering the machines for sale for prices and full descriptions. If you do not find listed what you require, use the post card inclosed with each book to make known your wants to the publisher.

WANTED BY

South Bend Machine Tool Co.,

South Bend, Ind.

SHAPER.

A second-hand traveling head shaper, 16", 18" or 20" stroke. State condition and how long it has been used.

FOR SALE BY

McMullen Machinery Co.,

Grand Rapids, Michigan

Automatics, 2" Cleveland, (2).
Compressor, 8x8 Bury horiz.
Drill, 3" Bickford radial.
Drill, 20" Bickford, w. f.
Lathe, 13"x7' C. & J., q. c. g.
Lathe, 14x6 Shepard, semi-q. c. g.
Lathe, No. 4 Cataract, bench.
Lathe, 11x4 Pratt & W., speed.
Lathe, 11x4 Wells, speed.

Planer, 24x24x8 Whitcomb.
Planer, 24x24x8 Lodge & Davis.
Press, No. 3 Amer. Can Co., incl.
Punch & sh., No. 3 L. & A. dbl., 6" th.
Riveter, 3" Shuster, rotary.
Riveter, No. 81-B Grant.
Screw mach., 24" Oliver, p. f. to tur.
Shaper, 14" Hendey, friction.
Shaper, 16" Pratt & Whitney, b. g.

Ask for complete list.

FOR SALE BY

The Bicknell Mfg. & Supply Co.,

Janesville, Wis.

Centering machine, Whiton.
Drill, Albany, friction.
Drill, 10" Barnes.
Drill, 24" light pattern.
Drill, 24" Barnes, s. h., b. g.
Lathe, 17"x8' Greaves Klusman.
Lathe, 14"x6' Shephard, 2" h. s.
Lathe, 18"x6' comp. rest, h. s.
Lathes, 18"x8' comp. rest, h. s., (2).
Lathe, 24"x8' comp. rest, h. s.

Lathe, 24"x16' comp. rest, h. s.
Lathe, 18" stud lathe.
Miller, Grant.
Miller, Lincoln.
Miller, Garvin Lincoln.
Miller, slab.
Punch and shear, cap. 4x3".
Shaper, 16" Rockford, crank.
Shaper, 22" geared.
Tapping machine, horizontal.

FOR SALE BY

The Machinery Warehouse, 3705 S. Ashland Ave., Chicago, Ill.

The following pumps rebuilt and in guaranteed condition. These are in stock and ready for shipment.

CENTRIFUGAL ENGINE DRIVEN PUMPS.

2" Morris d. c. to a 3 h. p. gasoline engine.
No. 3 Lawrence d. c. to a 4 x 5 vertical engine.
No. 8 Wickes d. c. to a 8 x 8 vertical steam engine.

CENTRIFUGAL BELT DRIVEN PUMPS.

No. 3 Lawrence, 3" suction, 3" disch. | No. 10 Morris, 14" suction, 10" disch.
No. 6 Morris, 8" suction, 6" dischar.

TRIPLEX BELT DRIVEN PUMPS.

11x3 Gould, 1" suction, 1" dischar. | 9x10 Rumsey, 7" suction, 6" dischar.
8x 8 Van Wei, 5" suction, 4" disch.

SECOND-HAND MACHINERY

FOR SALE BY

The H. A. Stocker Machinery Co., 566-72 W. Randolph St., Chicago

BORING MILLS.

36" Niles, two swivel heads.
40" Rogers & H., two swivel heads.
82" Niles, car wheel boring mill.

51" Bullard, one swivel and one fixed head, arranged for motor drive and equipped with motor.

DRILLING MACHINES.

22" Aurora, s. h., b. g., p. f.
24" Hamilton, b. g., p. f.
26" W. F. & J. Barnes, s. h., b. g., p. f.
32" Hamilton, s. h., b. g., p. f.
32" Hoefler, s. h., b. g., p. f.
34" Barnes, s. h., b. g., p. f.

34" Industrial radial.
12 spindle multiple, P. & W.
No. 38-C Baush, 12-spindle.
Allan, 2-spindle (new).
Allan, 4-spindle (new).

GEAR CUTTERS.

30"x9" Gould & Eberhardt automatic for spur and bevel.

24"x7" Gould & Eberhardt for spur.
36" Walcott, for spur.

GRINDERS.

14"x20" B. & S., universal.
Gisholt tool grinder.

No. 5 Diamond, water tool.

LATHES.

12"x 3' Davis, c. r.
14"x 6' LeBlond, c. r., taper.
14"x 6' Rockford, c. r., d. b. g.
14"x 6' Fairbanks, c. r., taper.
15"x 6' Goddard, c. r., taper.
16"x 6' Prentice, c. r.
16"x 6' Sebastian, p. r.
16"x 6' Walcott, c. r.
16"x 8' L. & S., pat. head, c. r., q. c. g.
16"x10' Greaves & Klusman, c. r.
17"x10' Blaisdell, c. r.

18"x 6' Bradford, c. r., taper.
18"x 8' L. & S., pat. head, c. r., taper.
18"x 8' Bradford, c. r. with turret.
20"x10' Flather, c. r.
21"x12' New Haven, c. r.
21"x12' Bradford, c. r., taper.
24"x16' Schumacher & Boye, c. r.
30"x14' Reed, c. r.
32"x16' Blaisdell, c. r.
36"x12' American, c. r.
36"x28' American, c. r.

MILLING MACHINES.

No. 12 B. & S. plain.
No. 3 B. & S. plain, with vert. att.
No. 2 Cincinnati plain.

No. 4 LeBlond plain.
No. 13 P. & W., Lincoln.
No. 14 Becker vertical.

PLANERS.

Morton portable.
22"x22"x 6' Gray, one head.
24"x24"x 6' Cincinnati, one head.
30"x30"x12' Cincinnati, two heads.
36"x36"x12' Cincinnati, two heads.
36"x36"x16' Sellers, one head.

36"x36"x12' Powell, single head, arranged for two.
39"x39"x12' New Haven, one head.
40"x38"x14' Putnam, one head.
40"x40"x12' New Haven, one head, one side head.

PRESSES.

No. 6-N American Can, s. s., geared.
No. 174 Consolidated, double crank.

No. 25 Toledo, o. b. inc., cam drawing.
No. 95 Bliss, double crank.

SCREW MACHINES.

No. 1 Chicago automatic.
1 3-16" Hartford automatic.
2" Cleveland automatic.
2 1/4" Cleveland automatic.

1" B. & S., plain.
16" P. & W., plain.
No. 2 P. & W., geared.

TURRET LATHES.

16" Lodge & Shipley.
25" Niles.
2"x24" Jones & Lamson.

No. 2 Warner & Swasey, hollow hexagon.
24" Gisholt, spindle capacity 6 1/4".

MISCELLANEOUS.

Bolt cutter, 1 1/2" Acme.
Centering machine, No. 1 Whiton.
Cold saw, No. 1 Burr.
Cold saw, No. 3 Burr.

Dividing heads, 10" B. & S.
Keyseater, No. 2 Baker.
Keyseater, No. 60 Baker.
Oil separator, No. 2 National.

SECOND-HAND MACHINERY

FOR SALE BY

Henry Prentiss & Company, Inc., - **Singer Bldg., New York**
Formerly
Prentiss Tool & Supply Company,

BORING MILLS.

No. 1 Beaman & Smith, double hd. | 5" bar Beaman & Smith horizontal.
60" Bullard vertical. | No. 1 Springfield spindle borer.

DRILLING MACHINES.

2-sp. Henry & Wright. | 3' Bickford radial, motor drive.
4-spindle Woodward & Rogers. | 34' Gang plain radial.
4-spindle Barr. | 4' Bickford plain radial.
5-spindle Reed. | 5' American radial.
20" Barnes all geared. | 6-spindle Gardam adjustable
21" Foote-Burt, cone drive. | 12-spindle Gardam, adjustable.

GRINDERS.

No. 1 Brown & Sharpe, internal. | Misch valve grinder.
Espin-Lucas saw grinder. | 3" Yankee, twist drill.
Walker, single stroke, surface. | 12" Bristol rotary surface.

LATHES.

12"x5' Davis, turret and chuck. | 20"x10' LeBlond, c. r., p. c. f.
13"x 6' Young, c. r., p. c. f., chuck. | 20"x 8' Lodge & Davis, c. r., p. c. f.
16"x 6' Automatic threading. | 21"x10' Bogart, c. r., p. c. f.
16"x 6' Reed, c. r., p. c. f. | 42"x16' Niles, c. r., p. c. f.
18"x 8' Rahn-Carpenter, c. r., c.p. f. | 38"x10' Harrington, c. r., p.c. f., ck.

MILLING MACHINES.

No. 3 Brainerd plain, vert. att. | Garvin duplex.
Lincoln type millers, (25). | Nos. 1 & 2 P. & W. hand.
No. 2 Garvin universal. | No. 5 Becker, vertical.

PLANERS.

15"x18"x 3' New Haven. | 26"x26"x5' New Haven.
24"x24"x6' Gray. | 32"x32"x8' Pond.
24"x24"x5' Whitcomb. | 36"x36"x15' Gleason.

PUNCHES AND SHEARS.

25" Waiss & Rons. | No. 5 New Doty, hand.

SAWS.

4" Espen-Lucas. | 20" Burke, cold.
No. 1 Burr cold. | No. 1M Q. & C. power.

SHAPERS.

20" Walcott. | 20" Juengst, friction.
15" Juengst, friction. | 24" Gould & Eberhardt.

SCREW MACHINES.

1" Smurr & Kamen. | 13" Rivett.
3-A Warner & Swasey. | 34" Cleveland auto.
13" Gisholt. | 1" National-Acme, automatic.
18"x 7' Fay & Scott. | 1" Hartford, automatic.

MISCELLANEOUS.

Air compressor, 8"x8" American. | Cutting-off machine, 3" Davis.
Bending machine, 30 ton Watson | Gear cutter, 64x16 G. & E.
Stillman. | Gear cutter, 22" G. & E.
Blower, pressure, No. 4 American. | Keyseater, No. 1 Davis.
Broaching machines, Nos. 2, 3 and 4 | Pipe machine, 6" Armstrong.
LaPointe. | Tapper, 4" Baker Bros.

SECOND-HAND MACHINERY

FOR SALE BY

Simmons Machine Co., Inc., 981-985 Broadway, Albany, N. Y.
New York Office, 902 Singer Building

NEW MACHINERY

LATHES.

13x6 So. Bend, h. s., c. r., p. c. f., (2) \$ 285.	16x8 So. Bend, h. s., c. r., p. c. f., \$ 390.
14x6 Monarch, q. c. g., d. b. g., (5) 690.	18x8 Cisco, c. r., p. c. f., (2) 825.
16x6 Canedy-Otto, c. r., p. c. f., (9) 450.	

GRINDERS.

Drill, W. & M., style W. P. T. \$ 160.	Double disc, 18", 2 extra discs, \$ 300.
Surface, No. 1 W. & M., (3) 225.	Univ. tool & cutter, No. 6 Stand. 400.
Universal tool & cutter, No. 6	External and internal portable,
Standard, with vise, int. arm,	Dumore, (6) 75.
chuck, 2 sets jaws. 485.	13x40 Full univ., No. 3 Modern 1800.

MILLERS.

Hand, No. 1 Bickford (3) \$ 300.	Plain, No. 14 Valley City, \$ 850.
Hand, No. 2 Garvin, (2) 250.	Plain, No. 3 Kempsmith 1450.
Hand, No. 1 Std., with vise (3) 300.	Plain, No. 24 Oesterlein, heavy 1970.
Pl., No. 2 Kempsmith, Oct. del. 1100.	Plain, No. 34 Oesterlein, heavy 1500.

MISCELLANEOUS.

Drills, No. 28 C.-O. sens. (2) \$ 25.	Shaper, 20" Ohio, crank \$ 725.
Drills, 20" Canedy-O., p. f. (2) 105.	Screw mchs., hand, No. 3 Foster
Drill, 20" C.-O., p. f., tap. att. 125.	pl., long, fd. to cut-off slide 575.
Drills, type B, Sipp No. 1, (2) 175.	Screw mche., No. 2 Hercules. 500.

USED MACHINERY

LATHES.

10x4 Seneca Falls, 4-sp., screw	22x12 Fifeild, c. r., p. c. f., s. s.,
cutting, chuck \$ 140.	grinding attachment. \$ 650.
12x5 Barnes, h. s., s. r., s. c. 100.	26x10 Pond, c. r., p. c. f., ex. hvy. 850.
12x5 Barnes, swiv. r. screw ctg.,	28x10 Ames, p. c. f. 290.
turret on shears, steady rest. 190.	28x10 Ames, p. c. f., chuck. 300.
13x6 Seneca Falls, c. r., h. s. 425.	30x9 New Haven, turret tool
18x8 American, q. c. g., c. r., p. c. f.,	post, chuck, taper attach. 460.
complete with chuck, (2) 850.	30x16 New H. p. r., p. c. f., chk. 450.
18x8 Porter, c. r., p. c. f., chk. 375.	32x16 F. & S., q. c. g., h. s., c. r. 1050.
20x8 LeBlond, c. r., p. c. f., h. s. 875.	40x14 Harris, c. r., p. c. f., s. s., chk. 800.
20x8 Pond, c. r., p. c. f., h. s., chk. 550.	66x16 Pond, c. r., p. c. f., 4 1/2 h. s., 2000.
22x8 Connell-G., s. s., p. c. f., pr. 165.	19x38x8 Fay & S. extension, c.
22x10 Niles, c. r., p. c. f., h. s. 775.	r., p. c. f., h. s. 1150.

TURRET LATHES AND SCREW MACHINES.

2" Bardons & O., used 3 mos. (2) \$ 1050.	24" Davis boring & chucking \$ 775.
2 1/2" B. & O., used 3 mos., (20) 1200.	Pratt & W., 17-32" hole, dbl.
No. 2 W. & S. used 3 mos. (20) 550.	cutting-off slide 275.
Wood 1" tilted turret, pan bed,	Potter & J. semi-auto. tur. 3" h. s. 650.
auto. chuck, collets, etc. 450.	P. & J. semi-auto., 4 1/2" h. s. 750.

PLANERS.

24x24x6 Lathe & M. Adams	30x30x7 Flather hi-duty, perfect \$ 850.
universal milling head, mill-	30x30x8 Pond ex. hvy., excellent 1200.
ing cutter and chuck. \$ 600.	54x54x16 Sellers, solid bed, 3
24x24x6 Gray, excellent cond. 650.	heads, excellent condition 2000.
24x24x6 American hi-duty, univ.	60x60x12 Betts, solid bed, 3
milling att., used 2 weeks. 1200.	heads, perfect condition. 1800.

DRILLING MACHINES.

10" Barnes upright, 1/2" cap. \$ 35.	3' Gang radial, like new \$ 750.
12" Gardam sens., 1/2" cap., (3) 30.	4' Niles semi-univ. radial, scl.
2-sp. Fulton sens., 1/2" cap. 60.	pulley drive, gear box feed,
2-sp. P. & W. upright 70.	perfect condition. 1050.
3-sp. Dwight-Slate sensitive 110.	6' Dreses pl. radial, perf. cond. 1200.
4-sp. Dwight-Slate sens., (2) 120.	6' Fosdick pl. radial, perf., (2) 1200.
24" Prentiss, sliding hd., b. g., 150.	

GRINDERS.

Cutter-reamer, Brown & S.,	10x36" Landis pl self contained \$ 1600.
good condition. \$ 130.	12x36" Landis pl. self contained 1700.
Surface grinder, Waterbury. 30.	Shell grinders, Bridgeport,
Surface, No. 3 Walker, mag-	like new, (3) 650.
netic chuck, 8x30 table. 850.	

SECOND-HAND MACHINERY

Simmons Machine Co., Inc.,—Continued

MISCELLANEOUS.

Automatic, $\frac{3}{4}$ " 4-sp. Gridley, q. c. g., single pulley drive. \$ 1200.	Miller, Newton vertical, circular table 30" diam. \$ 700.
Borer, wheel, Putnam, fine cond. 300.	Miller, No. 15 Garvin plain, index head 750.
Boring mill, 36" Bickford. 2000.	Miller, No. 2 Cincinnati universal complete. 1150.
Boring mill, 60" Niles, vert. 2650.	Miller, Garvin duplex, table 40x10, three T slots, (2) 700.
Boring mill, 60" Sellers, ex. cond. 2650.	Press, Bliss No. 68-N, dbl. actg., 550.
Cutting-off mch., 3" H. & R. 275.	Punch press, No. 55 Bliss 250.
Gear cutter, 48x12 Gould & Eberhardt, all attachments. 700.	Shaper, 12" Juengst crank 275.
Keyseater, No. 2 Davis, per. con. 150.	Shaper, 16" Smith & M., crank 450.
Miller, No. 7 B.-B., Lincoln, (2) 475.	Shaper, 24" G. & E., perf. cond. 650.
Miller, No. 284 Bement, Lincoln 250.	Shaper, 24" Cinti., perf. cond. 750.
Millers, P. & W. Lincoln, (12) 150.	Shaper, 28" Ohio, like new. 700.
Miller, No. 32 Kempsmith Lincoln, excellent condition 600.	Thread miller, Holden Morgan 400.
Miller, No. 3 Cincinnati, plain 1200.	

FOR SALE BY

Badger-Packard Mch. Co., 72-74-76 W. Water St., Milwaukee, Wis.

DRILLING MACHINES.

14" Mechanics, lever feed, round base, (2).	31" Rockford, sliding head, back geared, reversing attachment.
14" Milwaukee, lever fd., round base.	20" Barnes, geared.
14" Excelsior sensitive, lever feed, round base.	20" Champion, b. g., power feed.

LATHES.

24"x12' Perkins, compound rest, solid spindle, countershaft.	18"x10' Blaisdell, compound rest.
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MISCELLANEOUS.

Air compressor, 10x10 Franklin, complete with tanks and fittings.	Hack saw, No. 2 Racine high speed practically new.
Buffing lathe, No. 10 Hanson-Van Winkle.	Miller, No. 2 Hisey, plain.
Grinder, disc, No. 3 Besly.	Punch, bench, No. 21 S. M. & W.
Grinder, drill, Yankee style B.	Punch press, No. 2-C Consolidated not inclinable.
Grinder, water, 20" Diamond No. 64.	Shaper, b. g. crank. 20" Smith & M

FOR SALE BY

Brown-McDonald Machinery Co.,

906-908-910 North Market Street, St. Louis, Mo.

LATHES.

17"x8' Sidney, q. c. g.	15"x 8' South Bend, new.
13"x6' South Bend, (new).	16"x 8' South Bend, new.
14"x5' Putnam, s. s., p. r.	17"x8' Fifield, h. s., p. r.
14"x8' Fitchburg, s. s., p. r.	Fox brass lathes, (4).

DRILLING MACHINES.

Barnes, $\frac{1}{2}$ " capacity, single spindle.	New 20" Champion, w. & l. back geared and power feed.
Reed 4-spindle No. 33, $\frac{1}{2}$ " capacity.	36" s. h., back geared, p. f.
New 20" Champion, w. & l., (3).	

PLANERS.

26"x26"x7' Whitcomb.	30"x30"x9' New Haven.
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COMPRESSORS.

8x8 Star, sgl. cyl., dbl. a., belted.	1160 cu. ft. Ingersoll, steam, cpd. air.
10x10 Star, with 10x10 vert. engine.	20x20x13" Norwalk, straight line.

MISCELLANEOUS.

Cold saw, Q. & C.	Rolls, 8' Hilles & Jones, cap. $\frac{1}{2}$ ".
Friction saw, Ryerson, motor driven.	Shaper, 14" Steptoe, crank.
Hack saw, Atkins Kwik Kut.	Shears, square, 37" Bertsch, 15" gap.
Hammer, helve, 60 lb. Knowlton.	Slab miller, 48" Cincinnati.
Hammer, helve, Rochester, size B.	Steel brakes, 4' and 8'.

SECOND-HAND MACHINERY

FOR SALE BY

Shepard Lathe Company,

Cincinnati, Ohio

LATHES.

Four 12"x24" centers, quick change gear, for immediate shipment.
Two 12"x48" centers, quick change gear, for immediate shipment.
Three 10"x25" centers, quick change gear, two weeks' delivery.
One 10"x46" centers, quick change gear, two weeks' delivery.
Reasonable prices.

FOR SALE BY

Girard Machine & Tool Co., 491-493 N. Third St., Philadelphia, Pa.

LATHES.

48"x21" Pond, c. r.
24"x10" New Haven, c. r.
22"x 9' 6" Warsaw.
21"x16" Fifield, c. r.
21"x 8' LeBlond, hollow spindle.
17"x 8' Johnson, c. r.
14"x 6' Lodge & Shipley, hol. spdl.
11"x 5' Reed, r. f. r.

MISCELLANEOUS.

Boring mills, turret head vertical, 36" Brown & Sharpe, (2).
Boring mill, 36" Bridgeport.
Broaching machine, No. 2 Lapointe.
Cold cutting-off saws, capacities 4", 5" and 6" round.
Gear cutter, 36" Whiton.
Milling machines, No. 2 Pratt & Whitney, plain table 20"x7"; No. 0 Pratt & Whitney, plain, table 5"x24".
Pipe cutting and threading machines, 4" and 6".
Planer, 24"x24"x5' Betts, with one head.
Shapers, 24" Hendey heavy duty.
Slab miller, 17"x8' Beaman & Smith, with two horizontal spindles.
Stamping and punching presses, a large number of the open back inclinable, straight side and arch types.
Turret lathes, large stock of various sizes and makes.

FOR SALE BY

Frank Toomey, Inc.,

127-131 N. Third St., Philadelphia, Pa.

LATHES AND TURRETS.

26"-48"x14" new dbl. spdl. McCabe
lathes, heavy pattern, (11).
28"x15" Harrington.
26"x14" Star.
24"x12" new Carroll Jamieson.
20"x10" Blaisdell.
19"x 8' Rahn Mayer.
19"x 8' new Sidney, d. b. g., q. c. g.,
swing 21", (3).
17"x 8' new Sidney, d. b. g., q. c. g.,
swing 19", (3).
18"x10" Cincinnati.
17"x 8' new National, q. c. g., (9).
15"x10" Sebastian.
14"x10" Prentice, t. a.
13"x7 1/2" new Carroll-Jamieson, (12).
12"x25" bet. center, new Shepard (4).
24" Gisholt.
22"x24" Jones & Lamson, (2).
2" Cleveland automatic screw mche.
2 1/2" wire feed Foster, ring.
16"x6" Windsor, b. g., f. h.
14"x5" Bridgeport.
14"x5" Lodge & Shipley, wire feed.
14"x5" Warner Swasey, Fox.
1"x8" new Pierce screw machine.
1" P. & W. hand screw machine.
1" Hartford auto. screw machine.

MISCELLANEOUS.

Boring mill, vertical, 36" Baush, one
turret head.
Drill, 25" Superior, new.
Drill, 24" Bement.
Drill, 25" Superior, new.
Drill, 36" Currie & Snyder.
Grinder, universal, 12"x36" Bath.
Grinder, universal, 12"x66" Landis.
Grinder, ring, No. 210 Heald, wet.
Hammer, steam, 350 lb. Sellers.
Hammer, steam, 600 lb. Morgan.
Miller, Steptoe, b. g., p. f.
Miller, plain, No. 14 American.
Miller, No. 23 B. & S., pl. tbl. 50x10".
Planer, 18"x18"x5" Pond.
Planer, 22"x22"x6" Powell.
Radial drill, 42" Betts.
Shaper, 20" Cincinnati, b. g.
Shaper, 24" Flather, b. g.
Tapping & drilling mche., 36" Baker.

SECOND-HAND MACHINERY

FOR SALE BY

The Motch & Merryweather Machinery Company,
707-715 Lakeside Av., N. W. - - - Cleveland, Ohio
Branches: Detroit, Cincinnati, Pittsburgh.

AUTOMATICS.

2" Cleveland, modern, (2).
 No. 56 National-Acme.

14" Fay automatic lathe.
 No. 2 Brown & Sharpe, (2).

BORING MILLS.

60" Niles vertical.
 24" bar 36" Niles horizontal.

No. 2 Baker cylinder borers, (2).

DRILL PRESSES.

4' Prentiss gear box radial.
 4' Baush radial.
 40" Aurora, sliding head upright.

24" Cincinnati, sliding head, upright.
 Quint, turret head, (2).
 8-spindle Fox, round head.

GEAR CUTTERS.

26"x8" No. 3 Brown & Sharpe, (2).
 36" Flather.

50" G. E. spur and bevel, old.
 5" Bilgrim, (2).

GRINDERS.

No. 14 Bath universal.
 10x50 Norton.
 14x50 Norton.
 14x72 Norton.
 No. 6 Modern, arranged internal.

No. 6A Bryant internal.
 Springfield Brandis, surf., motor dr.
 No. 12 Gardner, disc.
 No. 2 Leland & Faulkner, wet tool.
 Polishing and buffing stands.

HAMMERS.

2000 lb. Chambersburg, steam.
 800 lb. Morgan & Williams.

36 Williams-W., "Justice" tire welder
 500 lb. Chambersburg.

KEYSEATERS.

No. 6 Baker.
 No. 2 Baker, (2).

No. 3 Mitts & Merrill, with equip.
 18"x14" Morton.

LATHES.

13"x5' American, turret on shear.
 14"x6' Fay & Scott, new, (6).
 16"x6' Blaisdell, r. f. rest.
 18"x8' Hamilton, (2).
 18"x8' Davis, 3-step cone, d. b. g.,
 c. r., semi q. c., (11).

18"x10' Bradford.
 18"x12' Lodge & Shipley, patent hd.
 22"x14' Davenport, new.
 26"x12', 3-step cone, d. b. g., q. c.,
 Bridgeford standard engine, (7).
 Tindale-Morris crankshaft lathe.

MILLING MACHINES.

No. 3 Brown & Sharpe plain.
 No. 4 Brown & Sharpe plain.
 No. 2A Becker, circular tables.

Pratt & Whitney spline miller.
 No. 6 Whitney hand miller.

PLANERS.

48"x48"x12' Hewes & Phillips, 2 hds.
 24"x24"x6' Cincinnati, 1 rail head.

24"x24"x6' Gray, 1 rail head.
 26"x26"x10' Gray, 1 rail head.

PRESSES.

Long & Allstatter dbl. end 1" punch.
 6"x6"x1" angle shear.
 No. 5 Buffalo forge hand shear.

No. 24 V. & O., new.
 No. 3 V. & O., new.

SCREW MACHINES.

44"x36" Bardons & Oliver, motor
 drive.
 14" Bardons & Oliver, no w. f.

1" Foster-Kimball, no w. f.
 3" Garvin, no w. f.
 1" Warner & Swasey.

TURRET LATHES.

24" Gisholt, 6-hole, 1 year old, (7).
 24" Gisholt, 5-hole, 1 year old, (4).
 21" Gisholt, 2-hole, 1 year old, (5).
 22" Libby.

36" Pratt & Whitney flat, (3).
 36" J. & L., (3).
 No. 2 W. & S., hollow hex.
 2"x24" J. & L., bar.

TAPPING MACHINES.

7" Baker.

No. 2 Garvin.

MISCELLANEOUS.

Flywheel balancing mch., Rockford. | Folder, 72" Niagara.

SECOND-HAND MACHINERY

FOR SALE BY

Enterprise Machinery Co.,

Grinder, cock, double end.....\$ 35.
Grinder, 12"x42" Landis..... 1100.
Lathe, gap, 15-22"x6" Sebastian, 290.
Lathe, 18"x12" Blaisdell, c. r., 300.
Lathe head, 36"x5"x3" P. c. s., 85.
Miller, hand, 9"x5"x3" Pond... 90.
Miller, Lincoln type 27" table, 90.
Miller, Brainerd, p. f., 8"x30" 375.
Planer, 42"x15", 2 hds., good .. 1200.
Profiler, good condition.

32-34 S. Clinton St., Chicago, Ill.

Punch press, arch, bed 26x30...\$ 190.
Punch pr., straight side, 6000 lb. 350.
Punch, shear and rod cutters,
new, power, 7" to 1", \$115 to. 290.
Sc. mchs., No. 2 B. & S. auto., (8)
Screw mchs., 1" Cleveland, (3)
Screw mch., 2 1/2" P. & W., auto. fd.
Screw mchs., J. & L. (15) \$600 to 1200.
Sq. shear, 30" power, 75.
Over 500 other tools; write us.

FOR SALE BY

Cyril J. Bath, Cleveland, Ohio

Offices: 428 Leader-News Bldg.

Automatic, 7"x14" P. & J., very good.
Boring mill, 2-spdl. Beaman & S.
Boring machines, heavy vertical,
single bar, (2).
Centering mch., 4" Whiton, very g'd.
Forge slotter, 60" hvy. duty, good.
Hammer, power, 100 lb. Beaudry
"Champion", very good.
Hammer, stm., 800 lb. Sellers, sgl. fr.

Warehouse: 1031 W. Front St.

Hammer, steam drop, 1,000 lb. Lane,
fair.
Lathe, 12"x5" Young, c. rest, good.
Lathes, 16"x6" and 8" Davis, quick
change gear, new.
Planer, 72"x72"x30" Niles, 4 heads.
Riveter, rotary blow, 1/2" Shuster.
Threading mche., 1/4 to 1/2" Geometric,
and dies, almost new.

GENERATOR SET.

Large generator set, good as new, 400 k. w., 240 v., Crocker-Wheeler, direct
connected to Hamilton-Corliss non-condensing heavy duty cross compound
steam engine, 130 lbs.; complete with switchboards and all equipment;
may be seen in operation.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

210-212 Washington Ave.,

St. Louis, Mo.

LATHES.

11"x 5" Perkins.
14"x 8" Putnam.
15"x 8" Carroll-Jamieson.
17"x 8" Cincinnati.

18"x 8" Lodge & Davis.
18"x 8" Kahn & Larmon.
26"x12" Reed.

DRILLING MACHINES.

20" Barnes.
26" Barnes, sliding head.

25" Hamilton.
42" Niles gooseneck, heavy.

PLANERS.

22"x22"x 5" Powell.
32"x32"x14" Niles.

36"x30"x10" Powell.
36"x36"x 8" Powell.

AIR COMPRESSORS.

6"x6" belted.
8"x8" belted.
9"x9"x8" steam driven.
10"x10"x10" steam driven.

12"x12"x16" steam driven.
600 cu. ft., belted.
1600 cu. ft., steam driven.

MOTORS.

5 h. p. Wagner single phase.
35 h. p. G. E. 3 ph. 60 cy. 230 v.
55 h. p. 500 volt, d. c.

80 h. p. 500 volt, d. c.
50 h. p. 220 volt, d. c.
50 k. w. 220 volt, d. c. generator.

MISCELLANEOUS.

Bending rolls, 6' for 1/4" plate.
Boring machine, 2-spindle horizon-
tal, Newton.
Hammer, 80 lb., Yeakley.
Pipe machine, 2 1/2" to 8" E. C. & B.
Pipe machine, 4" portable.

Pipe and nipple machine, 2".
Pipe machine, 4" to 12" Bignall &
Keeler.
Punch and shear, double end.
Punch and shear, Bremmer comb.
Riveter, 10" cylinder compression.

SECOND-HAND MACHINERY

FOR SALE BY

The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.

ENGINE LATHES.

- | | |
|--------------------------------------|--|
| 14"x6' Blaisdell, p. r. | 16"x8' Lodge & Shipley patent head, |
| 14"x6' LeBlond, c. r. | q. c. g., pan bed. |
| 16"x6' Lathe & Morse, r. & f. | 18"x8' Bradford, c. r. & t. a. |
| 16"x8' Lodge & Shipley, c. r. | 20"x6' New Haven, c. r. |
| 16"x8' Bullard, p. r. | 24"x8' Putnam, c. r. |
| 16"x8' Davis c. r. & t. a., q. c. g. | 32"x18' Nixon, p. r. |
| 18"x6' Fitchburg, c. r. | 48"x26' Fifeild, c. r., triple geared. |

FOX LATHES.

- | | |
|---|---------------------------------|
| 14"x6', square arbor, set-over tail-stock, (2). | 20" American, universal turret. |
|---|---------------------------------|

TURRET LATHES.

- | | |
|--|---|
| 18" Lodge & Davis, gear feed head, automatic chuck. | No. 7 Bardons & Oliver, gear feed head, with vertical forming attachment. |
| 14" W. & S. plain head. | |
| 28" Gisholt complete, motor driven, 110 or 220 d. c. | 14" Lodge & Davis, plain head. |

MILLING MACHINES.

No. 8 Brainard, Lincoln type.

UPRIGHT DRILLS.

- | | |
|------------------------------|--------------------------------|
| 20" w. & l. fd., s. b., (4). | 20" b. g. & p. f., s. b., (4). |
| Sensitive drills, (2). | |

MULTIPLE DRILLS.

- | | |
|--|----------------------------|
| Detroit 5-spindle horizontal semi-automatic. | 3 and 6-spindle sensitive. |
|--|----------------------------|

PLANERS.

- | | |
|-----------------------------|--------------------------|
| 48"x48"x10' Pond, 2 heads. | 20"x20"x3', spur planer. |
| 52"x52"x24' Betts, 2 heads. | |

PUNCH PRESSES.

- | | |
|-------------------------------------|-----------------------------|
| No. 18 Bliss plain inclinable, (2). | No. 018 Bliss, plain bench. |
|-------------------------------------|-----------------------------|

BORING MILLS.

- | | |
|--|---|
| 36" Barrett horizontal cylinder boring, (2). | 30" Colburn vertical boring and turning mill, 3-jaw combination chuck, table. |
| Head plate boring lathe. | |

GRINDERS.

- | | |
|--------------------------------|-----------------------------------|
| Warner & Swasey cock grinders. | Roebottom, 16" discs. |
| No. 60 Heald, cylinder. | 14" & 20" wet grinders, (5). |
| Size "D" Gorton, 18" discs. | No. 10 Brown & Sharpe, plain. |
| No. 10 Besly, 18" discs. | 10"x24" Landis, plain wide wheel. |

SHAPERS.

- | | |
|--------------------------------|----------------------------------|
| 16" Fitchburg, traveling head. | 15" Walcott, geared. |
| 20" Walcott, friction. | 18" Barker & Chard, plain crank. |

SCREW MACHINES.

- | | |
|--|-------------------------------------|
| 14" Cleveland automatic, 3-hole. | 2" Hartford automatic, 5-hole. |
| 2" Cleveland automatic, 5-hole. | No. 00 Brown & Sharpe automatic. |
| No. 0 Brown & Sharpe automatic. | No. 1 Bardons & Oliver, plain head, |
| No. 2 Bardons & Oliver, p. h., a. c., w. l., power feed. | a. c., w. l. |

MISCELLANEOUS.

- | | |
|---|---|
| Bolt cutter, 14" Stockwell, sgle. hd. | Oil separators, No. 150 Curtis, ball bearing, (2). |
| Bolt cutter, 14" Acme, single head. | Pipe machine, 2" Jarecki. |
| Bolt cutter, 14" Wells, single head. | Pipe machine, 4" Williams. |
| Cold saws, 12" Burke, (2). | Profiler, No. 2 Garvin, 2 spindle, Wesson drive. |
| Cold saw, No. 11 Higley. | Pulley lathe, 36" Stevens, with boring attachment. |
| Grinder, planer type, 16x50" Springfield. | Radial, 6' arm Cleveland P. & S. |
| Grinder, tool post, Hisey type B, 110 d. c. | Works, wall type. |
| Grinder, extension, internal, 12" Hisey type D. E., 110 d. c. | Squaring shear, 12" Piqua Blower Co., No. 14 gauge cap., new. |
| Keyseater, Morton, draw stroke. | |

SECOND-HAND MACHINERY

FOR SALE BY

Neidow & Payson Co.,

9 So. Clinton St., Chicago, Ill.

Automatics, 1/2" to 2".
Boring and turning mills, 41" to 100".
Borer, 2-spindle cylinder.
Cold saw, 36" blade.
Drills, multiple spindle and sensitive.
Gear hobber, 18" Grant-Lees.
Gear cutters, G. & E. and B. & S.
Grinder, 10"x36" Landis.
Hammers, steam, 600 to 3000 lbs.
We can ship heavy duty Lathes, 26" to 42" swing, any length, in 30 days.

Hammer, board, 1200 lb. B. & S.
Lathes, 9" to 90" swing.
Lathes, 2" and 3" J. & L.
Miller, No. 3 Brainerd plain.
Miller, P. & W., spline.
Miller, 72"x48"x10", slab.
Planers, 26" to 72" wide.
Press, screw, pwr., No. 2 Amer. Can.
Press, 200 ton Niles car wheel.

FOR SALE BY

J. L. Osgood,

45 Pearl St., Buffalo, N. Y.

Cutting-off machine, 2" H. & R.
Cylinder borer and grinder, 24"
Davis, jigs and cutter bars.
Disc grinder & press, No. 6 Gardner.
Drill, 14" Reed, and chuck.
Drill, 20" Snyder, p. f. and a. s.
Drills, 20" Davis, b. g., a. f., (2).
Gear generators, double tool, 18"
Gleason, like new (2).
Lathes, 12" speed lathes.
Lathes, 11"x4" Reed, r. & f. rest,
chuck fitted.
Lathe, 12"x5" Robbins, r. & f. rest.
Lathe, 14"x6" Reed, r. & f. rest.
Lathe, 18"x6" Hamilton, c. r., chuck
fitted.

Lathe, 18"x12" Greaves & K., c. r.,
chuck fitted.
Millers, hand, Whitney, new (2).
Miller, Carter & Hakes, Lincoln.
Miller, Lincoln, 12" Cincinnati.
Piston & ring mch., Gridley, motor.
Power press, Dodge, 12" throat, 24"
fly wheel.
Screw machines, hand, B. & S. No. 0,
new, (2).
Shaper, 15" Hendey.
Stud mchs., No. 0 B. & S. auto., (2).
Surfacing machine, emery belt, 14"
Peerless.
Turret lathe, 20"x8" Fay & Scott.

FOR SALE BY

Walter P. Dolle,

412 Traction Bldg., Cincinnati, Ohio

Air compressor, Ingersoll-Rand N. F. 1; 310 cubic feet at 100 lb. pressure.
Automatics, multiple spindle, size 33 New Britain, (10).
Bevel gear planer, 15" Gleason, single tool.
Bevel gear planer, 24" Gleason, single tool.
Boring mill, vertical, 72" Pond, double swivel head.
Broaching machine, double, No. 2 Lapointe, new.
Car wheel borer, 42" Niles, cone drive.
Drill, 22" Barnes.
Flat turret lathes, 24"x24" J. & L., sliding head, (6).
Gear cutter, 48" Gould & Eberhardt.
Grinder, Gardner, double disc.
Grinder, Yankee twist drill, style W. P. L.
Lathe, 16"x8" LeBlond.
Lathe, standard engine, 32"x24" LeBlond, raising blocks to 52".
Lathe, 42"x18" Bradford, triple geared, cone head.
Lathe, 56"x12" New York steam engine, triple geared.
Milling machine, plain, No. 3 Cincinnati.
Milling machines, P. & W. double spline, (2).
Planer, 22"x22"x5" American, single head.
Planer, 70"x60"x16" Cincinnati, 4 heads.
Planer, 76"x62"x32" Cincinnati.
Punch and shears, multiple, Long & Alstatter style B, 8' between housings,
104" throat, motor driven.
Radial drill, 6" Gang.
Radial drill, 6" Dreses, full universal.
Screw machines, No. 2, plain head, hand, 1 1/2-16" cap., new, (10).
Slotters, 14" Sellers.
Turret lathe, No. 2 Bardons & Oliver.

SECOND-HAND MACHINERY

FOR SALE BY

J. Sklar Manufacturing Co., 133-143 Floyd St., Brooklyn, N. Y.

AUTOMATIC SCREW MACHINE.

A second-hand 8" Cleveland automatic screw machine complete with countershaft, in first-class condition, which we wish to dispose of as we have no further use for a machine of this size.

FOR SALE BY

W. L. Perkins, Jr.,

30 Church St., New York

LATHES.

24"x10' Putnam, c. r., cross feed.
26"x14' Putnam, c. r., cross feed.
28"x14' Putnam, c. r., cross feed.

32"x10' Putnam, c. r., cross feed.
70" Sellers d. h. wheel lathe.
80" Bement d. h. wheel lathe.

PLANERS.

24"x24"x6' Gray, single head.
32"x32"x8' Pond, 2 heads.

40"x40"x12' Putnam, single head.
72"x72"x8' Sellers, 3 heads.

RADIAL DRILLS.

5' Dreses, tapping.
6' Bickford, tapping.

7' Baush, tapping.
8' Pond, tapping.

FOR SALE BY

Federal Machinery Sales Co.,

8 N. Jefferson St., Chicago, Ill.

BORING MILL.

34" Bullard boring mill, geared feed.

UPRIGHT DRILLS.

2-spindle Henry & Wright high speed ball-bearing drill.
3-spindle Henry & Wright high speed ball-bearing drill.
4-spindle Kern high speed ball bearing drill.
5-spindle Fay & Scott high speed ball bearing sensitive drill.

GEAR CUTTERS AND HOBBING MACHINES.

Grant-Lees 14" gear hobbing machine, with full set of change gears.
24" Gould & Eberhardt spur and bevel gear cutter.

GRINDERS.

3" Diamond-Gorton double disc grinder, with two 18" steel discs.
Eames twist drill grinder, tight and loose pulley countershaft attached.
LeBlond universal cutter and tool grinder.

HAMMER.

125 lb. Bradley compact cushion hammer.

KEYSEATERS.

No. 1 Davis keyseater, with countershaft.
No. 2 Davis keyseater, with countershaft.

LATHES.

15"x 8' Barnes screw cutting, hollow spindle.
16"x 8' Shepard, hollow spindle, compound rest.
17"x10' Lodge & Davis, 4-step cone, hollow spindle.
20"x10' Reed engine lathe, 4-step cone, compound rest.
24" Streit pulley lathe complete.
30"x14' raised to swing 34" Fay & Scott engine lathe.

MILLING MACHINES.

Hall & Brown plain miller.
Slightly used No. 14 Garvin plain miller, with countershaft.

PLANERS.

18"x18"x40" Putnam, one head on cross rail.
30"x30"x8' Whitcomb, one head on cross rail.
36"x36"x16' Niles, four heads.
48"x48"x16' Sellers, four heads, all power feeds, spiral worm drive.

PRESSES.

No. 1 Rockford inclinable, open back.
No. 4 American Can motor driven geared punch press.

AUTOMATIC SCREW MACHINES.

No. 2 Brown & Sharpe automatics, 1/2" capacity, excellent condition, (5).
1" Cleveland automatics, excellent condition, (3).

SECOND-HAND MACHINERY

FOR SALE BY

Clark Machinery Co.,

Blower, No 1 Root, positive pressure
Compressor, 10x12 Chicago.
Grinder, disc, No. 8 Besly.
Keyseater, No. 0 Mitts & Merrill.
Lathe, 48"x24" Enterprise, c. r.
Lathe, 16"x6" Pratt & Whitney, with
taper attachment and turret.

1302 Ontario Ave., Cleveland, O.

Lathe, double head key lathe.
Miller, No. 2 B. & S. universal.
Miller, double end valve.
Miller, vertical, table 22"x54".
Magnetic separator, No. 1 Ding.
Screw machine, 24" Cleveland auto.

FOR SALE BY

Western Machinery Co.,

12 West Third Street, Cincinnati, O.

24"x16" Schumacher & Boye \$700.
15"x54" Sebastian gap 140.
14"x 6" Bogart, taper 225.
12" Shepard (new) q. c. g. (7) 175.

LATHES.

16"x 6" Lodge & Shipley, q. c. g., \$300.
8"x5" Barnes 75.
10" Shepard (new) q. c. g. (4) 155.

DRILLING MACHINES.

20" drill presses, (3) \$ 25.

30" Dreeses radial drill \$450.

MISCELLANEOUS.

Blower, No. 6 Sturtevant \$ 25.
Electric drills, 110 and 220 v. 20.
Motor, 2 h. p., 220 v., d. c. \$37.50
Motor, 5 h. p., 220 v., d. c. (new) 100.

Pipe machines, 4", \$35. 6" \$75. 8" \$125.
Saw, power, Kwick-Kut, heavy, 50.
Shaper, 12" Steptoe traverse 165.
Shaper, 24" Barker, (new) 375.

FOR SALE BY

Strong & Hery Co.,

210 State St., Rochester, N. Y.

In stock for immediate delivery:

LATHES.

20"x10" Hamilton, new, (2).
16"x24"x8" Sebastian gap lathe.
13"x6" Barnes.

9" Porter Cable mfg. lathe, new.
16"x6" Canedy-Otto, new.
16"x6" Hamilton, new, (2).

BENCH LATHES.

A variety of new and used bench lathes with collets.

BENCH MILLER.

B. C. Ames, new.

PROFILER.

No. 14 Garvin.

HAND MILLING MACHINES.

No. 2 Garvin, new.

No. 1 Standard, new.
SLAB MILLER.

16x48 Bement slab miller.

COLD SAW.

9" Lea-Simplex, with saw grinder, new.

DRILL PRESSES.

4-spindle Barr.

3-spindle Avey.

SHAPERS.

16" G. & E. plain.

SCREW MACHINES.

No. 2 B. & O., new, (2).

No. 2 1/2 Garvin, new.

1" Pierce, new.

No. 4 Foster.

1 1/2" B. & O., new, (2).

MILLING MACHINES.

No. 1 Van Norman plain, like new.

DISC GRINDERS.

No. 6-X 20" ring Diamond disc grinders, with compound table, micrometer adjustment, (2).

No. 6-X 14" ring Diamond grinder, with table, same as above, (2).

GRINDERS.

No. 1 cutter and reamer grinders, new, (2).

SECOND-HAND MACHINERY

FOR SALE BY

Central Brass Mfg. Co., 4068-4106 Princeton Ave., Chicago, Ill.
AUTOMATICS.
Three 1" Cleveland automatics in good working order.

FOR SALE BY

Chas. Molitor Machinery Co., 215-221 S. Clinton St., Chicago, Ill.

LATHES.

12"x6' Davis, quick change, taper, draw collets.	22"x10' Economic.
16"x6' Reed.	22"x14' Fifield.
20"x10' Whitcomb-Blaisdell.	32"x16' Putnam, (2).
	52"x16' New Haven.

PLANERS AND SHAPERS.

30"x 8' Fitchburg.	20" Steptoe, geared.
20"x 6' Wheeler.	18" Barker.
24"x 6' Pond.	

MILLING MACHINES.

No. 3 Garvin, universal.	No. 2 Kempsmith.
No. 4 Garvin.	No. 9 Kempsmith.

DRILL PRESSES.

22" Rockford, sliding head.	36" Grant universal.
31" Gould & Eberhardt.	Baker Bros. boring mill.

SCREW MACHINES.

1/2" Pratt & Whitney, (2).	16" Windsor, turret.
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MISCELLANEOUS.

Power roller, 6"x10'.	Drill chks., 9-32" Russell, 1,000, new.
1 1/2" Upsetting & forging mche., (3).	Large stock iron, brass, tinners' machinery, etc.
Squaring shears, 5' and 8', foot pwr.	

FOR SALE BY

E. L. Easley Machinery Co., 551-557 Washington Blvd., Chicago, Ill.

LATHES.

18-22"x10' Milwaukee double back geared engine lathes, heavy, well-constructed tools. Write for descriptive matter. (New).
12-24"x10' Rahn-Larmon quick change gear engine lathes, 3-step cone, double back geared. Write for quotation. (New).
24"x10' American high duty engine lathe, double back geared, quick change gear, like new.

GRINDERS.

18" No. 7 Besly, double disc.	Twist drill, 2 1/2" (3).
24" Leland-F., double wet tool, (2).	6-sp. Milwaukee cock grinder.

SCREW MACHINES.

1 1/2"x9" Acme.	1/2" No. 2 B. & S. semi auto.
1/2" Cleveland automatics, (2).	1 1/2" Drees, hand, f. g. hd.

MISCELLANEOUS.

Blowers, various sizes, (6).	Planer, 24"x24"x8' Pond.
Boring mills, 30" Colburn, 1 head.	Planer, 36"x36"x10' Ohio, 2 heads.
Boring mills, 42" Gisholt, 2 heads.	Press, No. 3 1/2 Bliss cam drawing, wt. about 11,000 lbs., fine shape.
Borer, cylinder, Moline 2 spindle.	Press, No. 76 Consolidated open back geared, wt. about 13,000 lbs., good condition.
Bolt cutter, 1 1/2" Acme, double head.	Press, No. 65 Consolidated straight sided geared, wt. about 6,200 lbs., good shape.
Drill press, 32" G. & E., b. g. & p.f.	Pulley lathe, 24" Streit.
Drill press, 24" Mechanics. s. h.	Riveter, 1/2" Shuster, Adt model.
Forming roll, power, 98" Bertsch.	Sprocket turning and boring machine combined, Baker Bros.
Gear cutter, 48" Brainerd, spur.	Sprue cutter, 10" Adt, power.
Keyseater, No. 1 Knowles horiz.	
Miller, No. 1 B. & S.	
Millers, valve, for brass, (2).	
Oil separator, No. 1 American.	
Pipe machine, 2" No. 2 Bignall & K.	
Planer, 48"x48"x14' Pond, 1 head.	
Planer, 24"x24"x6' Pond.	

SECOND-HAND MACHINERY

FOR SALE BY

Peninsular Machinery Co.,

Countersht., 1 15-16" with 18x5 t. & 1.
Chuck, 24" 4-jaw. Ind.
Drill, 14" single spindle sensitive.
Drill, 12" Barr sensitive.
Drill, 4-spindle Bickford.
Drill, 14" Allen sensitive.
Drilling head, 2-spindle, 3" to 8".
Flexible shaft, with c. s., Stow.
Forming roll, 14 ga. 48" long.
Grinder, emery, No. 3 Blount.
Grinder, cutter, No. 1 Garvin.
Grinder, cutter and tool, LeBlond.
Grinder, twist drill, New Yankee.
Groover, No. 3 Niagara.
Hack saw, No. 11 Millers Falls.
Key lathe, 12" Cobb, double end.

110 Beaubien St., Detroit, Mich.

Lathe, 16x6 LeBlond, engine.
Lathe, 14x5 LeBlond, rapid prod't'n.
Lathe, 20x8 LeBlond.
Miller, hand, No. 1 Whitney type.
Press, No. 3 Model A Perkins, pl.
Press, No. 33E Michigan, geared.
Straightening press, No. 3A Geier.
Screw machine, plain, No. 0 Foster.
Screw machine, plain, No. 1 Foster.
Screw machine, grd., No. 5 Foster.
Screw machine, grd., No. 10 Foster.
Screw machine, grd., No. 8 Foster.
Screw machine, plain, No. 3 Foster.
Speed lathe, 11"x4' Blount.
Speed lathe, 13"x5' Blount.
Speed lathe, 16"x6' Blount.

FOR SALE BY

Niles-Bement-Pond Company,

111 Broadway, New York.

Located at Chicago, Boston and New York.

LATHES.

12"x 5' speed lathe.

15"x 7" P. & W. speed lathe.

16"x8' VonWyck, q. c.

AUTOMATIC SCREW MACHINES.

8" Acme old style 4-sp. automatic.

8" Spencer single turret, auto.

BORING AND DRILLING MACHINES.

3" spindle Pond horizontal boring and drilling machine.

36" Brown & Sharpe turret borer.

SHAPERS.

10" Miles old-style shaper.

12" Bement old-style shaper.

24" G. & E. shaper.

PLANERS.

22"x22"x 6' Harrington hd. planer.

24"x24"x6' Bertram.

30"x30"x 8' Niles, 1 head.

42"x42"x20' Miles, 2 heads.

48"x48"x20' Sellers, 2 heads.

DRILLING MACHINES.

13" 1 spindle sensitive, 110 v. motor.

14" 3 spindle Henry & Wright.

17" 4 spindle gang. Jones & Lamson.

D-1 Colburn heavy duty drill.

No. 14 Pratt & Whitney multiple, 1" capacity, arranged for 16 spindles.

No. 10 Pratt & Whitney multiple, 1 1/2" capacity, 10 spindles.

No. 1 Pawling & H. horizontal, belt drive.

Dallet and Prentice portable drills.

RADIALS.

24" Grant, semi-radial.

34" Bement, plain radial.

4" Barr, old-style.

8" Niles, plain.

6" Niles, semi-universal.

RAILROAD MACHINERY.

Bement double axle lathe.

Niles double axle lathe.

Putnam heavy axle lathe.

79" Pond dbl. driving wheel lathe.

GRINDERS.

12x96" Springfield.

Automatic grinder, for saw blades.

MISCELLANEOUS.

Bolt cutter, 24" National.

Cut-off machine, 4 1/2" Starr.

Engine, 300 h. p.

Engine, 100 h. p.

Engine, 75 h. p.

File sharpener, American.

Grindstone, 34", iron frame.

Motor, 80 h. p., 220 v., d. c., North-ern, 575 r. p. m.

Punch, horizontal, 60" throat, cap. 2" hole in 1", weight 47,000 lbs., belt driven.

Rolls, 5"x6" hand power.

SECOND-HAND MACHINERY

FOR SALE BY

Broadway Machinery Co., 236-238 Broadway, Cincinnati, Ohio

LATHES.

30"x10' Fifield, compound rest. 22"x12' New Haven, h. s., c. rest.
16"x6' Porter, h. s., c. rest. 22"x12' Dietz, h. s., c. rest.
20"x10' Silk-Anderson, h. s., c. r. 24"x12' Prentiss, h. s., c. rest.
14"x 5' Lodge & Shipley, c. c., h. s. 28"x14' Prentiss, h. s., c. rest.

MISCELLANEOUS.

Bolt cutter, 14" Economic. Presses, No. 34 Bliss, o. b. inc., (2).
Bolt cutter, 2" Acme. Punch, No. 3 L. & A., 3" stroke.
Boring mill, 10' Niles, 2 heads. Punch and shear, No. 8 L. & A.
Miller, No. 9 Bement vertical. Shaper, 21" Juengst, bk. grd. crank.
Planer, 30x30x7' New Haven, cheap. Slitting shear, Greenleaf, 25" throat.
Planer, 36x36x10'. Slotter, 20" Niles, geared.

Send for our New List.

FOR SALE BY

A. D. White Machinery Co., 108-114 N. Jefferson St., Chicago

SCREW MACHINES.

5-16" LaVigne. 1" Cleveland, friction jigger feed.
7-16" Cleveland, friction fd. 1 1/2" LaVigne, (4).
6" Cleveland, friction fd. 2" Hartford.
4 1/2" Cleveland, friction fd. 2 1/2" Hartford.
4 1/2" Cleveland, jigger feed. 4" Cleveland, semi-automatic.
4" Hartford, (2). 1 5-16" Dreses, hand.

ENGINE LATHES.

16"x 6' LeBlond. 28"x25' Putnam.
16"x12' Beaman & Smith. 30"x14' Blaisdell.
24"x10' Putnam, (2). 36"x20' New Haven.
28"x12' Fifield. New lathes, 13" to 18".

DRILL PRESSES.

14" Mechanics. 36" Bickford plain radial.
20" Barnes. 60" Dreses, semi-univ. radial.
23" Barnes, sliding head. 2 spdl. Rockford.
28" Bickford, sliding head. 2 spdl. Henry & Wright high speed.
30" Kerkhoff, sliding head. 8 spd. Valley City mult., No. 2 taper.
32" Bickford, sliding head. 10 spindle Pratt & W. multiple.
34" Barnes, sliding head. 12 spdl. Baush multiple, No. 2 taper.

PLANERS AND SAWS.

24"x24"x 6' Powell, 1 head. Bryant cold saw, 10 1/2" dia. saw.
32"x32"x 8' Betts, 1 head. No. 5 1/2 Nutter Barnes cold saw.
35"x35"x12' Niles, 2 heads. Nutter Barnes saw sharpeners, (2).

GRINDING MACHINES.

18" Ransom, disc. 1 1/2" Bridgeport floor grinders, (2).
Yankee Style "B", drill. No. 7 Sterling floor grinder, 2".
3-spdl. valve grinder. Springfield dbl. wheel, water.
No. 6 Diamond floor grinder. No. 2 Leland & F. water grinder.
1 1/2" Norton floor grinders, (2). New drill grinders.

PUNCH PRESSES.

No. 4 McDonald, o. b. i. No. 21 Bliss, o. b. i.
No. 40 Crosby, o. b. No. 29 Bliss, gang, dbl. action.
No. 45 Crosby, o. b., (3). 150-ton, Sellers 36" hy. wheel press.
No. 4 Leffler, o. b. i. No. 100 Crosby gang, 30" bet. uprights

MISCELLANEOUS.

Bolt cutters, 1 1/2 & 3" National, s. hd. Pipe machine, 2" Jarecki.
Boring machine, Binsse, 3 1/2" bar. Shaper, 16" Smith & Mills.
Boring mill, 40" Baush, 2 hds. Shear, No. 136 Niagara sq., 18 ga.
Boring mill, 42" Dawson, sgl. hd. Shear, No. 380 Toledo, slitting 16 g.
Hammers, 40 & 60 lb. Bradley, cu. hlv. Riveter, Shuster, 3".
Keyseaters, Morton port, 15" & 36". Punch, Wms. & W., 36" throat, 1" cap.
Miller, No. 24 Brown & Sharpe, pl. Tapper, 6-sp. No. 6 Bement, grd.
Miller, No. 3-B Milwaukee, pl. vert. at. Tapper, Newton pulley.
Oil gas generator, No. 3 American. Various blowers.

SECOND-HAND MACHINERY

FOR SALE BY

American Machinery Exchange, Inc., 217 Centre St., New York City

Chuck machine, 2x26 Jones & Lamson, geared head, bar equipment.

Chuck machines, 3x36 Jones & Lamson, geared head, (2).

Drill, 4-spindle Baker Bros., manufacturers, Style F.

Drill, 5-spindle Foote-Burt, adjustable.

Grinder, universal, No. 2 Oesterlein, all parts.

Milling machine, vertical, No. 3 Becker.

Nut tapping machine, 2" Acme, 4 spindle.

Presses, power, No. I V. & O. inclinable, double action, (10).

FOR SALE BY

The Randle Machinery Co., 1739 Powers St., Cincinnati, Ohio

LATHES.

All these Lathes have hollow spindle, compound rest, etc.

20"x 8' Mueller, l. c. g.

21"x 8' Mueller, l. c. g.

21"x 6' Reed, l. c. g.

24"x14' Bradford, l. c. g., taper att.

20"x 8' Hendey, l. c. g.

20"x 8' Hendey, l. c. g., taper att.

16"x 8' Hendey, l. c. g., taper att.

16"x 6' Hendey, l. c. g.

21"x 8' Lodge & Davis, l. c. g.

21"x14' L. & D., l. c. g., taper att.

22"x10' Putnam, l. c. g.

22"x10' Reed, l. c. g.

20"x10' Silk-Anderson, l. c. g.

28"x18' Lodge & Shipley, q. c. g.

18"x10' Challenge, q. c. g.

MISCELLANEOUS.

12' Boring mill, two heads on cross rail.

16" Shaper, crank.

Quick delivery and low prices. We also carry in stock a large assortment of steam engines, boilers and electrical machinery.

FOR SALE BY

Herman L. Winterer,

908-910 Beach St., Philadelphia, Pa.

LATHES.

20"x26' New Haven, c. r.

38"x18' Lodge & Davis, b. g., c. r.

38"x16' Fitchfield.

26"x21' Bement, b. g., c. r.

22"x12' Blaisdell, b. g., c. r.,

21"x14' Blaisdell, b. g.

21"x10' Lodge & Davis, c. r.

21"x28' LeBlond dbl. combination.

20"x 8' Flather, c. r.

19"x10' Fitchburg, b. g., (2).

18"x12' New Haven, b. g.

18"x12' Walcott, double.

18"x10' Lodge & Shipley, q. c. g.

18"x 8' Blaisdell, b. g., c. r.

17"x 8' Prentice, c. r.

17"x 6' Cincinnati, q. c. g.

16"x 6' Flather, c. r.

And many others.

TURRET LATHES.

4"x28" Pond.

2"x18" American back geared chuck-

ing lathe.

7"x14" Potter & J., semi-automatic.

7"x14" Porter & J., semi-automatic.

3"x28" Lodge & S., chucking lathe.

27" chucking lathe.

24"x8" Blaisdell ck'g. lathe with tur.

MISCELLANEOUS.

Bending rolls, 9"x35", d. e.

Boiler rolls, 4'6", drop end.

Boring mill, hor., 48" Beaman & S.

Boring mill, vertical, 63" Niles,

double swivel heads.

Centering machine, 4" Whiton.

Cylinder boring machine, horizontal,

4 1/2" bar, Barrett.

Electric welder, 16" throat, Toledo.

Gear cutter, univ., 20" Gould & E.

Grinder, ring, 8" Heald.

Hammer, drop, 850 lbs. Waterbury-F.

Keyseater, Burr.

Keyseater, No. 1 Baker.

Keyseater, No. 1 Davis.

Keyseater, No. 2 Davis.

Keyseater, 19"x8" Beaman & Smith.

Keyseater, 18" stroke Morton.

Planers, 20 to 24" with 5 to 8' bed, (6).

Planer, 34"x34"x9" New Haven.

Planer, 40"x40"x27'6", 4 heads.

Saw sharpeners, (4).

Shear, power, 10' Bertsch.

Slotter, 14", with circular table.

Large assortment of Boilermakers' and General Machinery.

Send for complete list.

SECOND-HAND MACHINERY

FOR SALE BY

Wayne Machinery Co., Taylor St. & L. E. R. R., Fort Wayne, Ind

Bolt cutter, $\frac{1}{2}$ " Acme.
Bolt cutter, $\frac{1}{2}$ " Acme.
Brake, 8' J. M. Robinson.
Drill, 23" Springfield, b. g., p. f.
Drill, 20" Fairbanks, p. f., b. g.
Drill, 24" Barnes, p. f., b. g.
Drill, 30" Snyder, p. f., b. g.
Grinder, No. 1 Woodward & Rogers,
surface.
Keyseater, No. 2 Davis.
Lathe, speed, 10"x4' Reed.
Lathe, 20"x12' Shepard.
Lathe, 9x45" Rockford engine.

Lathe, 15"x5 $\frac{1}{2}$ " American No. 1, brass.
Miller, hand, No. 6 Whitney.
Planer, 12"x12"x24" Wilkenson Co.
Planer, 24x24"x6" Silk Mch. Tool Co.
Press, No. 4 Leffler & Co., o. b. i.
Punch and shear, No. 2 Crosby, sgle.
Riveter, No. 530 Prouty.
Riveter, $\frac{1}{2}$ " Shuster, rotary blow.
Screw machine, 16" Pratt & Whitney,
g. f. h.
Tire welder, No. 4 L. & A.
Welding machine, No. 6-A Toledo
electric butt welder.

New tools for any requirement.

FOR SALE BY

New York Machinery Exchange, 50 Church St., New York City
All in Stock in Jersey City.

MILLING MACHINES.

No. 2 Cincinnati, universal.
Ingersoll, slab, platen 3'x12', 3 hds.
76" Newton vert., 48" rotary table.
Newton duplex slab, platen 18"x10'.
Detrick & Harvey milling, drilling
and boring machine.

No. 1 Pratt & Whitney plain, (2).
No. 1 Brainard, plain, table 13"x46".
Garvin plain, Nos. 4 $\frac{1}{2}$, 4, 3.
No. 4 Garvin profiler.
No. 1 Garvin 2 spindle profilers, (2).

ENGINE LATHES.

76"x22" Pond, blocked to 114", quad-
ruple geared, face plate drive.
38"x12" New Haven, (2).
36"x15" New Haven.
36"x14" Fifeid.
34"x16" Perkins.
32"x14" Bogert.
30"x28" Pond.
30"x20" Putnam.
28"x16" Fifeid.
28"x18" Gray.
26"x12" Blaisdell.

24"x12" Blaisdell, (2).
24"x10" Reed-Prentice, (2).
24"x12" Johnson, (2).
24"x10" Hendey, q. c., motor dr., (2).
24"x10" Bridgeport, (3).
22"x10" Davis, qck. change gear, (2).
18"x10" Greaves-Kiusman, q. c. g.
18"x 8" Shellenbach, geared head.
17"x 6" LeBlond, taper attachment.
16"x 6" LeBlond, geared head, sin-
gle pulley drive, taper att., (2).
14"x 8" Lodge-Shibley, q. c. g.

PUNCHES—SHEARS—ROLLS.

Sellers & Co. double angle shear, capacity 8"x8"x1" angles, weight 41,000 lbs.
Pels & Co. beam shear "T-40."
No. 3 Hilles & Jones punch & shear.
Bement punch, 30" throat, capacity 2" in 1".
8' Lennox rotary splitting shear.
Long & Allstatter size "D" bar shear, 3 $\frac{1}{2}$ " capacity; weight 30,000 lbs.
Bass double end punch & shear, 20" throats, capacity $\frac{1}{4}$ " in $\frac{1}{4}$ ".
Cleveland combined punch & shear, 26" throat, capacity 1" in 1".
Hains double end punch & shear, 12" and 21" gaps, capacity 1" in 1".
Cockburn direct acting punch, capacity 1" in 1".
Bertsch & Co. splitting shear, capacity $\frac{1}{4}$ " plates.
Kling Bros. punch, 14" throat, capacity $\frac{1}{4}$ " in $\frac{1}{4}$ ".
Cleveland punch, 22" throat, capacity 1" in 1".
Wilson double end punch & shear, 6" throats, capacity $\frac{1}{4}$ " in $\frac{1}{4}$ ".
Bement plate shear, 26" throat, $\frac{1}{4}$ " capacity.
Hilles & Jones 12' ship plate rolls.
Kling 8' boiler plate rolls.

MISCELLANEOUS.

Boring mill, vert., 10' Betts, 2 hds.
Boring head, vert., 8' Betts, 2 hds.
Boring mill, vert., 66" Betts, 2 hds.
Boring mill, vert., 36" Niles, 2 hds.
Boring mill, horiz., Binsse, 3 $\frac{1}{2}$ " bar.

Boring mill, double spindle hori-
zontal, Newton, 5" spindle.
Grinder, plain, 12"x72" Norton.
Grinders, internal, No. 1 $\frac{1}{2}$ Landis, (4).
Grinder, internal, No. 1 Brown & S.

SECOND-HAND MACHINERY

FOR SALE BY

Chas. N. Braun, - - - **1311 E. Lewis St., Fort Wayne, Ind.**

Drill press, 36" radial semi-universal, worth \$400., only	\$ 250.
Drill press, 20" Sibley & Ware	55.
Drill press, 10" Whitney, almost new	25.
Lathe, 16"x6' Fifield, h. s., p. c. f., 2 chucks	200.
Lathe, 16"x6' Sebastian, h. s., p. c. f., compound rest	225.
Lathe, new, 13"x6' South Bend	270.
Lathe, new, 16"x8' South Bend	430.
Lathe, new, 17"x8' Sidney, quick change	900.
Lathe, 6-hole turret, 24" Davis	550.
Lathe, 18"x8' compound rest	375.
Miller, Lincoln type, Pratt & Whitney	175.
Miller, universal, Cincinnati No. 2	1300.

FOR SALE BY

E. S. Cullen Machinery Co., 340 Leader News Bldg., Cleveland, Ohio

Boring and turning mill, 10' Betts, belt driven; fine condition.
 Drilling, boring and tapping machine, Pond, horizontal, floor plate 10x12', equipped with out-board bearing, greatest distance spindle to floor plate 90"; excellent condition.
 Hammer, steam drop, 1500 lb. Bement & Miles, dbl. frame, fine condition.
 Hydraulic riveting plant, absolutely new, consisting of 96" gap riveter, 10 ton 25' span tower crane, accumulator and pump, 1500 lbs. pressure.
 Hydraulic riveting plant, used, consisting of 15' locomotive gap riveter, 25 ton tower crane, pump and accumulator; fine condition.
 Lathe, 50" Fifield, 26' bed, belt driven, triple geared, raising blocks to swing 36", 7 years old; fine condition.
 Planer, 60" Niles, single head.
 Planer, 76"x62"x32' Cincinnati, 4 heads, 4 years old, equipped with 30 h. p. reversing motor drive; fine condition.
 Squaring shear, 12', belt driven, cap. No. 14 gauge steel plate, absolutely new.

FOR SALE BY

McCoy-Brandt Machinery Company

Office and Warehouse 216-218 Penn Ave., Pittsburgh, Pa.

Good Used Equipment.

Blower, No. 2 Buffalo.	Motors, 8, 10, 15, 17, 100 h.p., 220v., d.c.
Boring mill, 8' Niles, 2 heads.	Motors, 10 and 55 h.p., 500 v., d. c.
Boring mill, 8' Niles, 2 heads.	Pipe machines, 2, 4, 6, 8, 10 and 12".
Boring mill, No. 3 Barrett horiz.	Planer, pony, 24x6", auto. feed.
Bolt cutter, Morgan, single hd., 1 1/2".	Press, s. s. 4000 lb., auto. roll feed.
Bulldozers, Nos. 1, 2, 3, 4, 12 & 29U.	Press, No. 30 Crosby, o. b. i., 1 1/2" str.
Compressor, 10x12x10", Laidlaw stm.	Presses, No. 19 Bliss equivalent, (4).
Crane, 2-ton, 220 v., d. c., 28' span.	Pump, 7 1/2x4 1/2x10" Snow duplex.
Crane, 3 1/2-ton, 220 v. d. c., 27' 9" span.	Pumps, triplex, 6x8", motor drive.
Crane, 3 1/2-ton, 220 v., d. c., 23' 5" span.	Punch & shear, 10" tht. cap. 1 1/2"x1".
Crane, 3 1/2-ton, 220 v., d. c., 22' 2" span.	Punch, horiz., 10" throat, cap. 1x1".
Crane, 15-ton, 220 v. d. c., 40' span.	Punch & shear (sgt.) 48" cap 4x1".
Drill presses, 20" & 31", sliding hd.	Rolls, bending, 6 cap. 3 16"
Gas engine, 35 h. p., 2 cyl. vertical.	Rolls, bending, 18", cap. 1".
Generators, 3, 22 1/2, 75 k.w., 110v., d. c.	Rolls, straightening H. & J. No 0, 56"
Generator, 30 k.w., 125v., d. c., st. eng.	Rolls, angle, cap. 3x3x8".
Hammer, 50 lb. Modern, power.	Sander, roll, 11"x44"
Hammer, 300 lb. Johnston & J.	Shear, rotary bevel, No. 2 Lennox.
Hammer, 200 lb. Bradley, helve.	Shear, butterfly, 8" knives
Keyseater, No. 1 Davis.	Seamer, Toledo No. 305 (double).
Lathe, 24"x14" L. & S., h. s., q. c., c. r.	Steam engine, 14x18", 125 h. p.
Lathe, 20"x8" Porter, p. r., s. s.	Surface condenser, 500 sq. ft.
Lathe, 18"x8" L. & S., grd. hd., q. c.	Testing machine, 200,000 lbs. Riehle.
Loco. cranes, 15 & 20 ton, 8 wheel.	Turret lathe, No. 4 H. & J., 3" h. s.

Partial List—Inquiries solicited.

SECOND-HAND MACHINERY

FOR SALE BY

L. F. Seyfert's Sons, Inc.,

437 N. 3rd St., Philadelphia, Pa.

Boring mill, 10' J. Morton Poole,
two heads.
Cold saw, No. 2 Newton, combina-
tion, motor drive.
Drill, radial, 36" Mueller, plain.
Drill, 26" Barnes, sliding head.
Drill, 26" Barnes, stationary head.
Lathe, 26"x12' Davis.
Miller, No. 2 Owens universal.

Miller, slab, 24"x24"x6' Ingersoll.
Planer, 22"x22"x5' Whitcomb, 1 hd.
Press, No. 4 Willard inclinable.
Punches and shears, Nos. 1 and 4
Hilles & Jones single end.
Shaper, 16" Smith & Mills plain
crank.
Shaper, 24" Smith & Mills b. g.
Tapping machine, 4" Hubbell.

FOR SALE BY

F. H. Kappen & Son, Agents,

93 W. Water St., Milwaukee, Wis.

Air compressor, 6x6x7, steam drive.
Blowers, pressure.
Boilers, stationary.
Bolt cutter, 1" Wells.
Cutting-off machines, Burke and
Burr.
Drill presses, sensitive.
Engines, steam and gasoline.
File sharpener, American.
Motor, 550 v., d. c., 6 h. p.

Lathes, 10x36" Shepard, 9x4 Star,
24x12 A. & C.
Press, geared, No. 6 Model H.
Perkins, 2" stroke.
Press, geared, No. 6 1/2 Model A.
Perkins, 4" stroke.
Press, plain, No. 45 Model E.
Perkins, 1 1/2" stroke.
Screw mch., 4" Pratt & W., auto.
Speed lathe, 12x45 Oliver.

FOR SALE BY

The Osborne & Sexton Machinery Co.,

Columbus, Ohio.

LATHES AND TURRET LATHES.

12"x 6' Fairbanks, comp. r., h. s.
13-15-16 and 18 O. & S., h. s., c. r., new.
14"x 6' Bradford, h. s., c. r.
14"x 6' Lodge & Shipley, h. s., c. r.
14"x 6' Blaisdell, taper. (2).
16"x 6' Blaisdell, overhauled.
18"x 6' Hamilton, h. s., d. b. g., new (3).
18"x10' Barker, h. s., comp. rest.
20"x 8' Hamilton, h. s., d. b. g., new (8).
20"x10' Putnam, overhauled.
21"x14' Fifield, comp. rest.

22 1/2"x12' Mueller, h. s., comp. rest.
22"x10' Hamilton, 3-step, new.
23"x10' Blaisdell, overhauled.
24"x16' Dietz, 5" h. s., c. r., taper.
15"x 6' Fox universal lathe.
16"x 6' back geared turret.
18"x 6' Mueller, turret on shears.
2"x24" Jones & Lamson.
24" Gisholt, 4" hollow spindle.
1" Garvin hand screw machine.

SHAPERS AND PLANERS.

15" Hendey tool & die shaper.
16" Steptoe crank shaper.
20" Smith-Mills crank shaper.
22" Walcott geared shaper.
22" Walcott shaper, pr. down fd.

24" Barker crank shaper.
20"x20"x 4' Industrial.
30"x30"x10' Ohio, 2 heads, new.
30"x30"x12' Pond planer.

MISCELLANEOUS.

Automatics, 7-16". National (2).
Broacher, 64" stroke Waterbury.
Buffing lathes, all sizes.
Centering machine, 6" P. & W.
Cut-off machine, 3" Davis.
Die miller, No. 1 Thurston.
Drills, flexible shaft (2).
Drills, hi-speed, 23-32"-32 tapered.
Drills, sensitive, 1, 2, 3 and 4 spindle.
Drill, Avey 3-spindle high speed.
Drill, 32" sliding head.
Drill, turret, 6-hole Quint.
Drill, 7-spindle, adj. centers.
Gas engines, 4 to 150 h. p.
Grinder, tool, Gleason.
Hammer, power, 100 lb. upright.
Hammer, drop, 750 lb. Toledo.

Miller, Gooley & Edlund, 38" fd
Miller, univ., Kempsmith No. 2.
Miller, plain, Garvin No. 3.
Motors, 2 to 25 h. p., 3 phase, 220 v.
Pipe machines, 2", (2).
Press, 124" Ferracute, 78000 lbs.
Press, 102" Ohl, 24000 lbs.
Radial drill, 30" Keystone.
Radial, 5' Universal.
Riveter, 4" Shuster, 20" throat.
Rolling mill, 22"x13" Toledo, 16000 lb.
Shear, squaring, 36" gap, 15" cap.
Straightening rolls, 30".
Tapper, vertical, Garvin No. 1.
Threading mch., Webster & Perks.
Variable speed transmission, Reeves.

SECOND-HAND MACHINERY

FOR SALE BY

Brownell Machinery Co.,

Cutting-off mch., 3" Hurlbut & R.
Drill presses, Baker hvy. duty, (2).
Gear generator, 11" Gleason automatic, double tool.
Gear generator, 6" Gleason automatic, double tool.
Gear generators, 12" Gleason, single tool, (2).
Gear generator, 15" Gleason double tool.
Gear generator, bevel, 18" Gleason, double tool post.
Gear cutters, 36" B. & S. auto., (2).
Gear planer, bevel, 16" Hugo Bilgram, single tool.
Lathes, eng., 16"x17" Oliver, new, (5).

11-13 Eddy St., Providence, R. I.

Lathes, engine, 14"x6' Worcester, new, (2).
Lathe, engine 18"x8' Star, c. rest.
Lathe, engine, 20"x8' Perkins, pl. r.
Lathe, engine, 20"x12' Perkins.
Lathe, turret chucking, 20"x6' Florence.
Lathe, turret, 22" Libbey, 4" hollow spindle.
Lathes, turret, 21" Gisholt, (4).
Milling mch., plain, No. 14 Garvin.
Milling machine, No. 5 Becker vertical, with rotary.
Milling machine, No. 2 Becker, vertical, with rotary.
Planer, 22"x22"x6' Flather.

Second-Hand Wood-Working Machinery

For a large list of used wood-working machinery, consult the **Wood-Working Machinery List**, a publication similar to this but devoted to the advertising of saw-mill and wood-working machines. A copy may be had on application to the publisher, **A. H. Hitchcock, 1220-1235 Caxton Building, Chicago, Ill.**

Don't Forget

The New England Dealer Service Of Purinton & Smith, Hartford

To New England Machinery Users:

Located right in the heart of your territory, we can give you a *prompt personal service* which you cannot secure from more distant markets.

Whether you are looking for new or used machines and tools, or whether you have used machinery to dispose of, take it up with your New England Dealers and see what we can do for you.

Yours for prompt service,

Purinton & Smith, Hartford, Conn.

Used Machinery For Immediate Delivery

In Stock

Lathes.

- 1—14"x6' Lodge & Shipley, quick change gear, taper attachment, hollow spdl., compound rest, excellent condition.
- 1—14"x8' Hamilton Style A, hollow spindle, compound rest.
- 1—16"x9' Perkins, compound rest, hollow spindle, good condition.
- 1—18"x12' Perkins, compound rest, hollow spindle, good condition.
- 1—18"x12' New Haven, comp. rest, hollow spdl., raising blocks to swings 30".
- 1—20"x17' J. & L., 12" centers, hol. spdl., cuts threads 3 to 40, either U. S. or Metric, comp. and plain rest, excellent condition, raising blocks to swing 30".
- 1—38"x15' New Haven, 8' centers, taper att., c. rest, sgl. back grd., fine shape.
- 1—72"x68' Putnam, 15' centers, compound rest, q. c. g. feed, triple geared, face plate drive, latest pattern, motor driven, wt. 7500 lbs., good as new.

Planers.

- 1—24"x24x6' Smith Planer, single head.
- 1—32"x32"x8' Gray Planer, one head, fine shape.
- 1—36"x36"x10' New Haven Planer, one head.
- 1—37"x37"x15' Lane Planer, one head.
- 1—60"x60"x18' Betts Planer, one head on rail and one side head.
- 1—72"x68"x20' Pond Planer, 4 heads, motor driven by 20 h. p. Crocker-Wheeler Motor mounted on top of housing, 220 volt, d. c.

Drilling Machines.

- 1—20" Rockford Stationary head, back geared, power feed.
- 1—22" Snyder Stationary head, back geared, wheel and lever feed.
- 1—24" Aurora Stationary head, back geared, power feed and auto stop.
- 1—36" Aurora Sliding head, back geared, power feed, auto. stop, good condition.
- 1—42" Baush & Harris Radial, back geared, good condition.

Grinders.

- 1—No. 1 Bath 10"x24" Universal Tool Room Grinder, complete with all attachments, in nice condition.
- 1—No. 6-A Gorton Double Disc Grinder, 18" discs, complete with countershaft.
- 2—Yankee Twist Drill Grinders, cap. up to 2½" drills, good as new.
- 1—Whitney Wet Tool Grinder, wheels 16"x2".

Miscellaneous.

- 1—No. 2 Mitts & Merrill Key Seater, complete.
- 1—No. 3 Mitts & Merrill Key Seater, complete.
- 1—12" Slotter, Industrial, compound and circular table.
- 1—16" Steptoe Crank Shaper, back geared.
- 1—15" Pratt & Whitney Crank Shaper, tool room.
- 1—No. 4½ Garvin Plain Milling Machine, table 9"x42".
- 2—Cold Metal Saws about 4" Capacity.
- 1—1½" Acme Bolt Cutter, pump, etc.

We are looking for good used metal working machinery of all descriptions, and especially tools such as Boring Mills, Planers, Radial Drills, Milling Machines, Shapers and Brown & Sharpe Automatics. Let us hear from you at once if you have any used machinery for sale or exchange.

D. M. Osborne Machinery Co.

Office: 917 American Trust Bldg.

Warehouse: West 11th & Front Sts.

Cleveland, Ohio

Milling Machines.

- | | |
|---------------------------------|--------------------------------|
| 1 Thread Miller, 4½x12. | 3 Lincoln Millers, No. 4 |
| 1 Thread Miller, 6x14. | Hendey. |
| 1 Universal Miller, Brown & | 3 Lincoln Millers, No. 7 B. B. |
| Sharpe No. 1. | 1 Briggs Miller, Type B., |
| 1 Plain Miller, Kemp Smith | large size. |
| No. 2. | 4 Hand Millers. |
| 1 Plain Miller, No. 14 Garvin. | 2 Oscillating Millers. |
| 10 Lincoln Millers, F. E. Reed. | |

Miscellaneous.

- | | |
|--------------------------------|-----------------------------|
| 8 Arbor Presses, No. 3. | 1 Gear Cutter, 30" G. & E., |
| 2 Drills, 20" Barnes. | spur and bevel. |
| 1 Drill, 24" Cincinnati, with | 3 Lathes, 16"x8" Reed. |
| tapping attachment. | 3 Lathes, 21"x12" Perkins. |
| 4 Drills, 32" Cincinnati, with | 3 Lathes, 26"x12" Hamilton. |
| tapping attachment. | 10 Screw machines, P. & W. |
| 1 Gear Cutter, 26" Brown & | automatic. |
| Sharpe No. 3. | 1 Slotter, 10" New Haven. |

T. Crowther & Company, Inc.

170 Oliver Street, Boston, Mass.

ANNOUNCEMENT

We are now prepared to furnish you
NEW and REBUILT

**Lathes
Drills
Planers
Shapers
Millers
Transmission
Motors**

**Key Seaters
Screw Machines
Punch Presses
Shears
Bolt Cutters
Grinders
Metal Saws**

COMPLETE PLANTS A SPECIALTY
Every Machine Guaranteed

We Buy and Sell. Tell Us Your Wants.

CHICAGO ENGINEERING & MACHINERY CO.
220-224 N. Clinton St., Chicago, Ill.

Second-Hand Machine Tools

Gear Machinery.

Norris four spindle semi-automatic bevel gear roughing machine.
15" Gleason bevel gear generator.

Boring Machines.

No. 1 Barrett cylinder borer, $3\frac{3}{4}$ " bar.
Barrett type horizontal, 6" bar, 72" table.
52" Gisholt vertical, one swivel, one turret head, quick power traverse.

Engine Lathes.

14" Hendey tool room, with draw chuck, taper, etc., good as new.
14" x 6' Porter, compound rest.
16" x 6' Reed, compound rest.
16" x 8' Walcott, compound rest.
20" x 10' Flather, with chuck.
26" x 13' Pond, compound rest.

Presses.

Upright power punch press, 3" stroke, 3 7-16" columns, 18" bet. openings.
Straight sided power punch press, $1\frac{1}{2}$ " stroke, takes in 20".

Turret Lathes and Screw Machines.

Gridley automatic piston machine.
No. 3 National-Acme four spindle automatic.

Shapers.

14" Springfield plain crank.
18" Springfield plain crank.
24" Smith & Mills geared, shifting belt.

Miscellaneous.

American oil separator.
 $1\frac{1}{2}$ " Economic bolt cutter fitted with Landis head, (new).

Marshall & Huschart Machinery Co.

17 S. Jefferson St.
Chicago, Ill.

915 Chemical Building
St. Louis, Mo.

Some Lathes

No. 79—22"x16' 3-Step Cone Head, with 2 headstocks and 2 tailstocks on one bed.

No. 87—24"x12' (Single Pulley).
No. 861—30"x10' 5-Step Cone Head Lathe.

OTHER MACHINES

No. B—36"x36"x12' Niles Single Head Planer.

No. 229—30"x30"x10' Cincinnati Double Head Planer.

No. 254—30"x30"x10' Cincinnati Single Head Planer.

No. 1337—Crompton - Knowles Loom Works Keyseater, 60" stroke, 48" swing.

No. 661—Globe Tool Sharpener for 1/2" x6".

No. 680—Safety Tool Grinder 4"x32" emery wheel.

No. 1379—Universal Swivel Table for radial drill.

No. 690—Marion Buffing Mch.
No. 000—6" Hersey Rotary Water Meter.

No. 1336—No. 60 Sturt. Blower.

No. 2531—Sturtevant 2 1/2" outlet.

No. 2033—Commercial Electric

D. C. 40 k. w. 110 volt Generator, compound wound.

1—15 h. p. Gas Engine, 215 rpm.

No. 1690—Rockford Straightening Mch., 8"x24" with c. s.

No. 702—No. 2 1/2 Safety Tool Grinder.

No. 1346—No. 4 D. E. Whiton Centering Mch. 6' bed.

USED MOTORS

1—1/2 h. p. Triumph Electric d. c., 110 volt, 1100 r. p. m.

1—3 h. p. 220 volt, d. c., 1150 r. p. m. Reliance Motor.

1—1 1/2 h. p. Bullock, 220 volt, d. c., 600 r. p. m.

1—3 1/2 h. p. Western Electric, 110 or 220 volt.

1—7 1/2 h. p. Northern, 220 v., d. c., variable speed, 365 to 1100 r. p. m.

40—Chucks of all sizes.

**The Lodge & Shipley Mch. Tool Co., Cincinnati, Ohio,
U. S. A.**

LATHES.

13"x5' Blaisdell.

14"x6' Von Wyck.

14"x6' Prentice, q. c. g.

14"x6' LeBlond, geared head, motor drive.

14"x6' Reed.

16"x6' Lodge & Shipley, q. c. g.

16"x6' Blaisdell.

20"x8' Reed.

26"x12' Reed.

30"x10' Fifield, triple geared.

TURRET LATHES.

3"x36" P. & W. chucking, power feed.

18" D. & E., geared friction head.

2"x24" J. & L.; bar equipment.

SCREW MACHINES.

Two No. 55 National-Acme Automatics.

Two 2 1/4" Gridley, single spindle.

No. 1 1/2 Pratt & Whitney, geared friction head, p. f. to the turret.

GRINDERS.

No. 3 B. & S. universal.

10"x50" Norton plain.

No. 2 Norton tool room.

RADIAL DRILL.

5' Drees plain.

6' Drees plain.

Chandler & Farquhar Company

419-425 Atlantic Ave.,

Boston, Mass.

First Class Used Machine Tools

Engine Lathes.

9"x36" W. P. Davis.	19"x10' Lodge & Davis.
14"x 6' Carroll-Jamieson, q.c., new.	20"x14' Rahn-Carpenter, gap.
16"x 6' Canedy-Otto, new.	25"x10' LeBlond, hvy. duty, turret.
18"x 8' Lodge & Shipley, q. c.	28-40"x10' Fay & Scott.
18"x 8' Lodge & Barker.	30"x12' Blaisdell.
18"x10' Rahn-Carpenter.	36"x16' Hamilton.
18"x12' Draper.	36"x13' New Haven.

Screw Machines and Turret Lathes.

No. 24 Pratt & Whitney.	21" Universal.
No. 44 Bardons & Oliver.	21" Gisholt.
2" American.	24" Morse.
3"x36" Pratt & Whitney.	

Drill Presses.

25" Barnes, stationary head.	3' Fosdick, plain radial.
28" Barnes, sliding head.	3 1/2' Morris, plain radial.
28" Cincinnati, sliding hd. (tapper).	4 Bickford, semi radial.
30" Cincinnati, sliding hd. (tapper).	

Shapers.

12" Perkins, belt.	15" Potter & Johnston, new.
30" Hendey, belt.	16" Queen City, new.
24" Gould & Eberhardt, crank.	

Planers.

26"x26"x 6' Flather.	42"x36"x14' Cincinnati.
32"x32"x8' New Haven.	

Milling Machines.

No. 1 Clough, vertical.	No. 14 1/2 Brainard, universal.
6"x48" Pratt & W. thread miller.	

Keyseaters.

No. 00 Baker Bros.	No. 3 Mitts & Merrill.
--------------------	------------------------

Boring Mills.

No. 1 Barnes, horizontal.	No. 1 Franklin, tool room.
No. 3 1/2 Binsse, horizontal.	3 1/2" bar Bement, horizontal.
2 1/2" bar Newark, horizontal.	

Punch Presses.

No. 12 Wold, inclined.	No. 3 Bliss, solid back.
No. 40 Wold, inclined.	No. 69-N Bliss, double acting.
No. 119 Crosby, open bk. inclinable.	No. 5 Stiles pattern, geared.
No. 21 Consolidated horning.	

Miscellaneous.

Axle lathe, Niles.	Riveter, 1 1/2" Shuster.
Bending roll, 12".	Riveter, 1 1/2" Cincinnati.
Bolt cutter, 1 1/2" Acme.	Screw press, 1 1/2" Stiles.
Bulldozer, No. 4 Williams & White.	Slotter, 16" Niles.
Cold saw, Espen-Lucas.	Squaring shear, 52" Niagara.
Pipe machine, 6" Bignall & Keeler.	

Wood Working Machines.

Band saw, 36" Fay & Egan.	Mortising machines, vertical.
Jointer, 8" Porter.	Sander, 48" Invincible.

Rumely-Wachs Machinery Co.

117-121 N. Jefferson St., Chicago, Ill.

"New York's Greatest Clearing House—New York's Lowest Prices—J. J. McCabe"

We search out the true values of Used Tools for the benefit of big and little shops who realize the importance of good Tools, and the wisdom of avoiding "taking chances."

"Reliability"

is the claim that keeps McCabe's Tools before your attention—

UPRIGHT BORING MILLS

16' swing, heavy, standard modern style,
2 heads, Niles Tool Works, motor driven,
still set up.
90" Swing, heavy, double head, Betts Machine Co.'s.
86" Swing, hvy., dbl. hd., Niles Tool Wks.
74" Swing, hvy., dbl. hd., Niles Tool Wks.
60" Swing, standard, double head, Niles Tool Works.
42" Swing, heavy, double head, Bullard Machine Tool Co.
38" Swing, hvy., dbl. hd., Niles Tool Wks.
37" Swing, heavy, double head, Bullard Machine Tool Co.

HORIZONTAL BORING AND DRILLING MACHINES

54" Bar, knee type, swings 90° x 90°

LATHES Back-Geared

36" Swing, 16' bed, Putnam Machine Co.
36" Swing, 8' bed, Pond.
32" Swing, 30' bed, Pittsburgh, dbl. bk. grs.
30" Swing, 28' bed, Putnam style.
30" Swing, 14' bed, Bement-Miles heavy.
30" Swing, 12' bed, Fitchburg.
28" Swing, 30' bed, Pond style, taper.
28" Swing, 14' bed, Fitchburg.
26" Swing, 10' bed, Pond.
24" Swing, 10' bed, Fitchburg.
24" Swing, 12' bed, Schumacher & Boye.
24" Swing, 10' bed, Lodge & Davis.
18" Swing, 10' bed, Draper.
New lathes 16, 18, 21" swing, 6 and 8' beds,
3-cone double back gears.
New McCabe double spindle lathes, 28-48" swing, 12, 18 and 20' beds.

TURRET LATHES

PLANERS Small Sizes

32"x32"x 8' one head, Pond Mch. Tool Co.
30"x30"x12' two heads, G. A. Gray Co.
30"x30"x 8' one head, Wm. Sellers & Co.
26"x28"x 6' one head, Pratt & Whitney.

ROTARY PLANERS

No. 2 Cleveland, 50" cutter head, 6' travel, with bed plate 3' x 6'.
Newton, 48" cutter head, bed 18' long, with extra bed plate, still set up.

SLOTTERS

9" Stroke, Bement.
10" Stroke, Wm. Sellers & Co.
12" Stroke, Putnam Machine Co.
12" Stroke, Bement.
12" Stroke, Betts Machine Co.
15" Stroke, T. C. Dill Machine Co.
16" Stroke, Betts Machine Co.
18" Stroke, Bement-Miles.

HORIZONTAL BORING AND DRILLING MACHINES

34" Bar, knee type, swings 80" spindle.
38" Bar, knee type, 42" feed, 60" between, Newark.

RADIAL DRILLS

One (1) 7' arm, heavy pattern, Pond Machine Tool Co.
One (1) 6' arm, heavy pattern Niles, motor driven, fan shape base, outer arm support.
One (1) 6' arm, heavy pattern, Bickford, fan base, outer support.
Two (2) 5' arm, heavy pattern, Dresses, speed-box.
One (1) 4' arm, heavy pattern, Bickford, speed-box.

MULTIPLE DRILLS

18-sp., belt driven, Baush Mch. Tool Co.
16-spindle, equipped for motor drive, no motor, Baush Mch. Tool Co. wt. 20,000 lbs.
4-spindle, gang style, table 6' in length, Niles Tool Works, wt. 10,000 lbs.

UPRIGHT DRILLS

36" Sw., Printice Bros., sliding hd., bk. grs.
32" Sw., Printice Bros., sliding hd., bk. grs.
22" Sw., Baker, high-speed for drilling, boring and tapping.

LATHES Triple-Geared

62" Swing, 24' bed, New Haven Mfg. Co.
60" Swing, 20' bed, Niles Tool Works.
56" swing, 28' bed, Putnam Machine Co.
48" Swing, 16' bed, Pond style, raise blocks to 60" Tool Co.
42" swing, 20' bed, heavy, Pond Machine Tool Co.
24-40" Swing, 12' bed, McCabe dbl. spdl.

J. J. McCABE

149 Broadway

New York

New lathes 16, 18, 21' swing, 6 and 8' beds, 3-dou. double back gears.
New McCabe double spindle lathes, 26-48" swing, 12, 18 and 20' beds.

TURRET LATHES

24" Swing, rapid reverse to turret, 24" hole Gisholt.
21" Swing, Gay style, 30" in gap, Gisholt.
2-20" Swing, full-automatic, 2" hole, Potter & Johnston.
22" Swing, turret screw machine, 24" hole, Garvin No. 13, 1 15-16" thru wire fed.

TIRE LATHE

42" Swing, double head, for cutting both wheels at one operation, "open center" type, Niles Tool Works.

MILLING MACHINES—Plain

Heavy, table 60"x14" all auto. feeds.
No. 34 Garvin, table 36"x12"
Ten Lincoln type, table 27"x6" Pratt & W.

Planer Type

30"x30"x12' Ingersoll, horiz. and vert. spdl.
36"x30"x5' Newton, horiz. and vert. spdl.
36"x22"x8' Newton, horiz. spindle only.
24"x24"x14' Ingersoll, horizontal spindle.
24"x24"x6' Ingersoll, horizontal spindle.
22"x22"x11' Newton, horizontal spindle.

PLANERS Large Sizes

72"x72"x8' three hds., Wm. Sellers & Co.
67"x67"x10' three hds., Wm. Sellers & Co.
62"x62"x28' two heads, Bettis Machine Co.
42"x42"x12' two heads, Pond Mch. Tool Co.
36"x36"x12' three hds., Wm. Sellers & Co.
36"x36"x12' two heads, G. A. Gray Co.
36"x36"x8' four heads, Wm. Sellers & Co.
36"x36"x8' two heads, Pond Mch. Tool Co.

12" Stroke, Putnam Machine Co.
12" Stroke, Bement.
12" Stroke, Bettis Machine Co.
12" Stroke, T. C. Hill Machine Co.
16" Stroke, Bettis Machine Co.
18" Stroke, Bement-Miles.

STEAM HAMMERS

3-600 lb. Morgan, double frame.
1-700 lb. Bement-Miles, double frame.
1-900 lb. Morgan, double frame.
2-1000 lb. Morgan, double frame.
1-1200 lb. Morgan, double frame.
1-2500 lb. Bement-Miles, double frame.
1-5000 lb. Morgan-Williams, dbl. frame.
1-10,000 lb. Bement-Miles, double frame.

PUNCHES AND SHEARS

24" Throat, with punches, heavy.
30" Throat, rotary splitting shears.
48" Throat, Cleveland, with shear blades and angle blocks.
48" Throat, Long & Allstatter, with splitting shears.
60" Throat, Long & Allstatter, capacity 2" hole thru 14" shear 24" round.

SHAPERS

36" Stroke, Hendey Co.
12" Stroke, traveling head Sellers.

BOLT CUTTERS

24" Acme, single head.
14" Acme, double head.
14" Putnam, single head.

MISCELLANEOUS

No. 2 Baker key-seater, 30" stroke.
Gear cutter, 36" spur and bevel, G. & E.
Gear cutter, 36" spur, Newark.
Double end cutting-off and centering machine, 9" capacity, Niles.
No. 20 Bliss press.
Cold saw, 5' round, Lea-Simplex.
Gas engine, 15 h. p. Fairbanks-Morse.

ReMANUFACTURED - (ORIGINATED BY US) - MACHINE TOOLS

FOR QUICK SHIPMENT

Partial List of Largest Stock in the World

LATHES.

1-60"x16 1/2' Fitchburg.
1-46"x18' New Haven.
1-42"x12' Putnam.
1-40"x16' Gleason.
1-31"x24' Bradford.
1-31"x12' Bradford.
1-28"x17 1/2' New Haven.
1-26"x12' American.
1-26"x12' Davis.
1-25"x26' American.
1-25"x14' Bradford.
1-25"x10' Greaves & Klusman.
1-24"x14' Blaisdell.
1-24"x12' New Haven.
1-24"x12' Draper.
1-24"x10' New Haven.
1-24"x10' Draper.
1-22"x12' Greaves & Klusman.
1-22"x16' Flather.
1-22"x10' Whitcomb-Blaisdell.
1-22"x10' American.
1-22"x10' Schumacher & Boye.
1-22"x 8' Flather.
1-21"x16' LeBlond.
1-21"x14' Flather.
1-21"x12' LeBlond.
1-21"x12' Bradford.
1-20"x12' Draper.
1-20"x12' Flather.
3-20"x10' American.
1-20"x 8' American.
1-20"x 6' Lodge & Shipley.
1-19"x12' Lodge & Davis.
1-19"x10' Rahn.
2-19"x 8' Rahn.
1-18"x 8' New Haven.
1-18"x12' Champion.
2-18"x10' Draper.
2-18"x10' Bradford.

PLANERS.

2-87"x46"x18' Woodward & Powell.
1-87"x46"x10' Woodward & Powell.
3-76"x48"x18' Woodward & Powell.
1-48"x36"x 8' Woodward & Powell.
1-42"x42"x14' Woodward & Powell.
1-36"x36"x17' Powell.
1-36"x36"x10' Gray.
1-36"x36"x 8' Woodward & Powell.
1-33"x33"x 8' Ohio.
1-30"x30"x 8' Powell.
1-30"x30"x 6' Pease.
1-27"x27"x 7' Flather.
2-27"x27"x 6' Ohio.
1-26"x26"x 7' Gray.
1-24"x24"x 6' Gray.
1-24"x24"x 6' Pond.
2-24"x24"x 6' American.
1-22"x22"x 6' American.
1-22"x22"x 5' Gray.

LINCOLN MILLERS.

1-No. 7 Becker.
1-No. 5 Hendey.
1-Garvin Duplex.
4-No. 13 Pratt & Whitney.
6-No. 12 Pratt & Whitney.
4-No. 2 Pratt & Whitney.
2-No. 7 Brainard.
1-No. 2 Carter & Hakes.

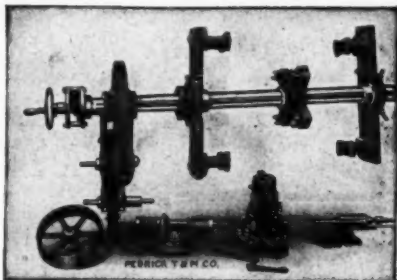
MISCELLANEOUS.

1-No. 3-A Lapointe Broaching mch.
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